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EDINBURGH

MEDICAL AND SURGICAL

JOURNAL:

EXHIBITING

A CONCISE VIEW

OF THE

LATEST AND MOST IMPORTANT DISCOVERIES

IN

MEDICINE, SURGERY, AND
PHARMACY.

1808.

VOLUME FOURTH.

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1808.

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THE

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MEDICAL AND SURGICAL JOURNAL.

1. JANUARY 1808.

PART I.

ORIGINAL COMMUNICATIONS.

I.

Report from "the General Hospital near Nottingham." By JAMES CLARKE, M. D. one of the Physicians to the Charity.

> "He who wishes to regulate his practice, not by what a warm imagination may suggest, but by what has already happened, will prefer fair analogy to mere speculation; and even the most enthusiastic theorist must allow, that, while facts are the basis of his opinion, it is by these only that his ingenious conjectures can be fully confirmed [*]."

IN the following observations it is not intended to draw any general conclusions from the table of diseases, already presented to the public[†], but to elucidate some few of the more valuable cases, not by any theoretical speculations, but by a plain representation of facts, leaving the reader to explain the result according to his own theory.

"When conclusions are formed from solitary, or even a few cases, the danger of mistakes may be clearly understood. But the inference is totally different when many examples concur to prove the efficacy of a remedy. It is for this reason that medical facts, when distinctly discovered, become extremely valuable. If many

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[*] See Duncan's Medical Cases, 3d edit. p. 3.

[†] Edinburgh Medical and Surgical Journal, Vol. III, p. 316.

many of a similar kind are brought into one view, the conclusions from them, by induction, afford a high degree of certainty [*]."

In the detail of cases, the greatest attention will be paid to present the reports as taken at the bedside of the patient. The reports of the cases in the house are taken daily in acute, and three times a-week in chronic diseases, but, wishing to avoid any unnecessary detail, those only are presented where some change of symptoms rendered it necessary to vary the plan of treatment.

To detail cases that, in their termination, proved unfavourable, must be always unpleasant to the practitioner; but, relying on that candour and liberality, which, doubtless, characterises the medical profession, they are here the more willingly offered to the public, as the dissections may suggest to others a treatment that may be followed by a more favourable termination. With this agreeable impression, I shall proceed to an examination of the diseases contained in the table.

The three intermittents, noticed in the report, were brought from Lincolnshire, and cured by the cinchona; patients of this disease, received into our hospital of late years, require very little medicine, the fever, gradually decreasing, soon retires altogether.

Under typhus and asthenia are placed some few cases which bear a greater resemblance to the slow nervous fever of Huxham [†], and might, with more propriety, be admitted under that term.

The febricula includes all cases of slight fever that cannot be admitted in the other genera; not strictly ephemera, but probably oftentimes symptomatic of some latent disease.

Among the ophthalmia are some cases of the more acute disease, answering to the description of that which afflicted our troops in Egypt, which, if not speedily arrested in its course, terminates in a total destruction of vision in the organ affected. It is not considered any farther contagious than by the application of the purulent discharge attending the disease to a sound eye; this was particularly marked in a family where the father was first affected, and the disease was communicated to the daughter by using the same towel. The plan usually pursued to arrest the disease, has been copious general bleeding; leeches to the temples, followed by blisters; scarifications; and topical applications.

In the treatment of rheumatism, the cinchona bark, as recommended by Dr Haygarth *, has been exhibited after proper evacuations, but not with the success which has attended his practice, until the disease put on the chronic form. The unpleasant effects which generally arise from its use, are an unsupportable oppression at the præcordia, with an increase of fever, although the dose may not have exceeded "ten grains every four hours;" it nevertheless would be premature to advance, that this treatment will not succeed in the country, until more extended practice and attentive observation may afford sufficient data for a conclusion.

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[*] Haygarth's Clinical Diseases, Part I. p. 3.

[†] Huxham on Fever, 3d edit. p. 74.

"Ajoutons qu'il ne faudroit pas penser pour cela que le quinquina soit, dans tous les cas, contraire au rheumatisme; les annales de la médecine contiennent des faits de rheumatismes periodiques, dans lesquels on a employé le quinquina avec succes. Casimir Medicus, Stoll et d'autres observateurs en ont recuelli des exémples; Stoll sur-tout, l'un des médicins qui a le plus fidellement observé et le mieux etudié les differentes formes sous lesquelles les rheumatismes se presentent aux yeux du practicien †."

In the arthrodynia, or chronic rheumatism, tonics have been generally employed, with the warm bath: much advantage has been derived from rubbing the affected joints with neat's foot oil two or three times a-day; this oil appears to possess properties very different from the vegetable oil, from the use of which the same advantage does not follow. Many cases of chronic pains that may arise from syphilis, or are doubtful in their origin, are included in the arthrodynia.

The arthropuosis, or psoas abscess, is sufficiently important to require a detail of the case.

ANDREW NASH, ætat. 30, S. (single), F. w. k. (frame-work knitter); scrofulous habit; came under the care of the reporter, December 9th, 1806.

Complains of nausea, cough, slight febrile symptoms; tongue furred, pulse small, feeble, and quick; bowels regular; some pain and much weakness of the right leg and thigh; cannot place the right heel on the ground, but walks on the toes with the knee bent; pain increased on sitting down or rising from the seat.

Does not know any cause for these complaints, and gives a very indistinct and confused account of his disease. He has taken many remedies under the care of an irregular practitioner.

An antimonial emetic was exhibited immediately. An ounce of

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* Haygarth's Clinical Diseases, p. 45.

† Journal General de Médecine, par Sedillot. Tome XXVIII. p. 99.

of a saline camphorated mixture was ordered to be taken every three hours after the vomiting.

December 13th.—Cough much the same, tongue still furred, pulse quick, but moderately full; bowels regular; appears fatuous.

Let him take a purgative in the morning, and continue the mixture.

December 15th.—Complains of considerable pain about the right trochanter. Upon examination by the surgeon, there appears much swelling and inflammation from the trochanter down the outer part of the thigh. Seven leeches are to be applied to the part, followed by a fomentation of a decoction of poppy heads.—The mixture continued.

December 17th.—About four yesterday afternoon was attacked with a vomiting of a greenish fluid; appeared relieved by the evacuation, and took some nourishment; about five, slight delirium came on, which very much increased during the night, until two this morning, and terminated in the present state of complete stupor, nor has he spoken since;—hiccup, laborious breathing, rattling in the throat, facies hippocratica; moribund.

A dram of sulphuric æther to be given repeatedly.—Died about seven in the evening, without any expression of pain.

SECTIO CADAVERIS.

External appearances.—Several scrofulous eschars; much emaciation; lividity of the integuments from above the right ilium down the outer part of the thigh.

Internal appearances.—Head. On removing the calvaria, the vessels of the dura mater appeared rather turgid, and on the left hemisphere, midway from the crista galli, to the crucial ridge of the os occipitis, about half an inch from the longitudinal sinus, there was a purulent appearance on the dura mater, of the size of half a crown, with a sense of fluctuation to the touch, as if from fluid contained under the membranes. On removing the dura mater no fluid was found, but there was an appearance of the pia mater corresponding to that of the dura mater. Neither the ventricles nor any other part of the brain appeared morbid.

Thorax.—The thoracic cavity, on a minute examination, did not exhibit any marks of disease.

Abdomen.—On opening the abdomen, no particular mordid appearance struck the eye; but, on raising up the colon, the right psoas muscle exhibited an entire mass of disease, which appeared to have its origin from that part, between the 11th and 12th dorsal vertebræ. Pus had diffused itself through the whole substance of the psoas magnus, betwixt the fascia lumborum and that portion of the abdominal muscles arising from it, and continuing its course downwards, over the back of the ilium, betwixt the gluteus maximus and medius, had insinuated itself underneath the vastus externus, about three inches below its origin: the whole of the muscles with which the pus had come in contact, were in a state approaching to purulency.

On his first admission, there certainly was not any reason to suspect psoas abscess; the pain and lameness in walking the patient attributed to rheumatism; there was no external appearance of inflammation; but, on the sixth day, the symptoms became more distinct, and proceeded to a sudden and unexpected termination, for which the dissection does not appear to offer any thing sufficiently satisfactory.

The cases of catarrh noted in the table, answer to the definition of Cullen; many admitted under phthisis are the consequence of catarrh in a constitution predisposed. It is oftentimes difficult to distinguish these two diseases. To this effect Dr Willan makes the following just remarks: "I hope to be excused in repeating this observation, as it enforces one practical point of some consequence, that, in coughs succeeding to catarrhal fevers, we should not be too hasty in pronouncing a case to be decidedly phthisical, nor, whenever the lungs are inflamed, discontinue, so long as possibility of benefit remains, the proper regimen and the means of resolution *."

The case of apoplexia hydrocephalica occurred in an adult female, and is thought worthy of detail. It will be observed, that the patient was under the care of the reporter, in private practice, before she came under his care in the hospital.

Mary Butler, æt. 37, married.

February 3d, 1806.—Complains of a violent and almost insupportable pain in the head, which is much swelled, and feels puffy; vision very much, if not totally impeded; the left eye has an unnatural direction upwards and outwards; the pupils insensible to light; speech much affected; stupor, but sensible when roused; the voluntary motions of the right side impeded: on attempting to walk, supported by attendants, the right leg is dragged along the ground; left swelled, in hard lumps, and in much pain; urgent dyspnœa; respiration performed with violent and almost convulsive action of the abdominal muscles; an unusual flow of saliva: pulse feeble, and irregularly intermitting; belly costive; skin hot, and feet cold; catamenia were suddenly suppressed by exposure to cold six weeks since, and have not returned.

The

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* Willan's Reports of the Diseases in London, p. 148.

The mother relates, that her daughter has been, from a child, subject to severe headaches on taking cold; catamenia were always small in quantity. About four days since, after complaining of general weakness, pain in the stomach and bowels, was suddenly deprived of sight, the motion of the right side, and partially of voice. She was immediately bled freely, but without relief. Let her have an ounce of a saline opening mixture every hour until it operates.

February 4th.—Purgative operated once; pulse less irregular. Let the head be shaved, bathed with vinegar and water, and a blister applied to the whole surface. Let her take a purgative immediately, and an ounce of a saline camphorated mixture every four hours.

February 7th.—The blistered part has discharged freely from the use of the blistering *ointment;* the head certainly appears less; double vision of the right eye; bowels open; has passed much urine; great discharge of tears and saliva: pulse irregularly intermitting, and very small, skin cool, feet warm, much muttering delirium, stupor, no sleep. Continue the mixture.

February 8th.—Has passed a better night; urine high-coloured; no unusual salivary discharge; more composed: pulse feeble and regular; vision as before; has had two dark-coloured evacuations. Repeat the purging pills; omit the mixtures. Camphor gr. viij. opium gr. j. in a bolus at bedtime.

February 9th.—A good night; salivary discharge returned; purgative has not operated; more composed; countenance more natural; vision as before; blistered part discharges freely: pulse as before; slight vomiting; speech improved. Sulphat of magnesia an ounce immediately, and the bolus at bedtime.

February 10th.—Has passed three dark-coloured evacuations, and deep-coloured urine in great quantity; vision the same; slept well; continues more composed: pulse as before. Repeat the bolus at bedtime.

February 11th.—Complains of pain in the face, body, and limbs of the right side; has passed two dark-coloured fetid evacuations; slept well. Take two purging pills every second hour until they operate; continue the bolus.

February 12th.—From inattention of the attendant, two pills only were given last night, and four this morning; no stool. Continue the pills, repeat the bolus.

February 13th.—The pills have produced four or five stools, the first of a very dark colour; blistered part discharges freely; ejects the bolus. Repeat the saline camphorated mixture.

February 14th.—Swelling of the head entirely removed; appears fatuous: pulse and speech as before; belly costive. Repeat the purging pills, and continue the mixture.

February 15th.—Became suddenly speechless and insensible, in the night; feces and urine passed involuntary; feet cold and of a livid appearance; pulse very feeble. Omit all medicines. Let her take brandy and water often.

February 16th.—Retains the urine, and feces somewhat better; shews evident marks of sensibility on being roused; feet warm and have lost their lividity; pulse becomes more full after taking the brandy and water, which produces a great inclination to vomit. Sulphat of copper, one grain in an ounce of water immediately, and the spirit continued.

February 17th.—The vomit operated twice, and brought only a little mucus from the stomach: appears more sensible; speech has returned; passes urine voluntary; vision as before; much gaping; some convulsive twitching. Continue the spirit, and repeat the blister to the head.

February 19th.—Perfectly sensible; passed both stool and urine in the natural manner; vision improved; pulse more full; feet warm; blister acted well. Continue the spirit. Carbonat of ammonia and camphor, each gr. x. in a bolus, every four hours.

February 21st.—The eyes have nearly recovered their natural direction; vision and speech improved; perfectly sensible; much weakness of the right side; pulse still intermitting and feeble; belly regular; ejects the bolus. Repeat the emetic solution.

February 24th.—Was to-day admitted into the hospital; appears to have partial use of her right side, but it feels very cold; vision much improved; speech still defective; belly costive; pulse feeble and intermitting. Calomel and opium, each a grain, to be taken at bedtime. Ung. hydrarg. fort. ʒß. to be rubbed into the legs night and morning; port wine four ounces daily.

February 26th.—Much the same; has taken some purging mixtures. Continue the medicines, repeat the boluses of camphor and ammonia, and the blister to the head.

February 28th.—The blister has produced a plentiful discharge; recovers power in the right side; vision improving; perfectly sensible, but very obstinate: belly open; passes feces and urine in bed; some vomiting; pulse very feeble; rejects medicines and food; ptyalism. Omit the medicines; let her have an ounce of cordial camphorated mixture every four hours.

March 3d.—The mixture being nauseated, the camphor was omitted; now receives food and medicine; belly open; stools contain grumous blood. Continue.

March 4th.—At a consultation held to-day, she was ordered a grain of calomel night and morning, and a cordial medicine every four hours.

March 6th.—Pills purge; in other respects the same. Let a grain of opium be joined with the calomel night and morning.

March 8th.—Still passes evacuations in bed; takes food with more desire; pulse feeble; ulcers have been discovered between the toes of both feet. Continue.

March 13th.—Much vomiting of a greenish fluid, streaked with blood; belly regular; urines freely; but still, from obstinacy, the nurse says, will not make known her wants; sleeps ill; refuses food: apply a blister to the head. Continue the medicines, and repeat the wine as before.

March 15th.—Mortification has taken place in the toes; debility increasing; countenance somewhat collapsed; pulse very feeble; takes very little nourishment; dyspnœa; evacuations passed as before. Continue the medicines; wine increased to half a pint daily.

March 17th.—Mortification extending; much vomiting; ammonia gr. x. camphor gr. vj. opium gr. ¼ in a bolus, every three hours, with a mixture of decoction of cinchona, and the extract of rhatany root.

March 18th.—Cannot take the medicine; countenance sunk; much fetor from the body. Continue the wine.

March 21st.—Died this morning.

SECTIO CADAVERIS.

On exposure of the cranium, the blood-vessels appeared slightly turgid; the cranium was particularly thick; about two ounces of fluid were confined under the dura mater; no water in the ventricles; the brain appeared natural.

The following case of the same disease, although not in the table, may not be thought unworthy of a place here:

WILLIAM WOOD, æt. 11. came under the care of the reporter, in the hospital, June 11th 1805.

Complains of much pain in his head; dimness of vision; but no dilatation of the pupils, or other morbid appearance of the eyes; pain in the stomach and bowels; nausea, and oftentimes vomiting of a greenish fluid; pulse full, quick, about 104; belly open; urines freely.

His mother relates, that he has been subject to pain in his head from infancy; but vision was not observed to be affected until within these three months; has not taken any medicines.

Two leeches to each temple, and a purgative immediately.

June 13th.—Pain in the head increased. Repeat the purgative, and take the pulv. ipecac. comp. gr. v. at bedtime.

June 15th.—Pain moderated. Leeches and blisters to each temple, and the purgative repeated.

June 17th.—A slight paroxysm of fever. An ounce of a saline mixture every four hours.

June 19th.—But little amendment. Electrical sparks were recommended from the temples; the purgative and saline repeated.

June 29th.—Somewhat better. Repeat the blisters, and continue the medicines.

July 3d.—Pain in the head increased; fever diminished; belly regular; pulse quick and small. Omit the remedies, and take a decoction of cinchona.

July 5th.—Much the same. Bark omitted.

Dolichos pruriens gr. x. ol. rutæ gutt. j. in a bolus, twice a-day, and the purgative repeated two days after; the boluses nauseated; the dolichos to be exhibited alone; and the purgative as before.

July 13th.—Much vomiting; pain in the head augmented; moans in his sleep; pupils dilated; vision defective; belly costive; passed about three quarts of urine in the last 24 hours. Omit the medicines.

Pil. hydrar. gr. v. night and morning.

July 15th.—Pulse sharp, 76; pain in the head increased. Shave the head, wash it with vinegar and water, and apply a blister to the crown; continue the pills.

July 20th.—Blister healed; pain moderated; vision as before; belly regular. Repeat the blister; continue the pills.

July 22d.—Much pain in the head; vomiting; restlessness; pulse 100; belly costive; skin hot and dry.

A dose of opening mixture immediately; continue the pills; ung. hydrar. fort. ʒß. to be rubbed in night and morning.

July 28th.—More easy; pulse 128; belly costive; repeat the aperient occasionally; and continue the remedies.

August 3.—Much pain and beating in the head; pulse 130; belly very open; continue the remedies.

Take tinct. digital. (Ph. Ed.) gutt x. three times a-day.

August 13th.—Pain in the head is at times very violent; mouth and gums very sore; no ptyalism; belly open; the pulse, since last report, has varied from 100 to 94;—continued the pills, and gutt. xv. of the digitalis for a dose; ung. hydrar. fort. ʒi. to be used night and morning.

August 17th.—Pain in the head moderated; pulse 88; belly regular. Continue the remedies.

August 22d.—Has ejected all his food; pains very violent, and seated in the back of the head; no ptyalism. Continue the pills and tincture; ʒiß. of the ointment night and morning.

August 24th.—But slight soreness of the mouth; two pills at night, and one in the morning. Continue the tincture and ointment.

August 26th.—Pulse 104; belly regular; in other respects as before;—two pills night and morning, and ʒii. of the ointment both night and morning. Continue the digitalis.

August 28th. After the visit on the 26th, was suddenly seized with convulsions, which continued about fifteen minutes; the pupils were very much dilated, and at the conclusion he screamed very loud; when recovered, he asked the bystanders if he had been sleeping; pulse 80; head painful; no soreness of mouth. Continue.

August 30th.—After the visit on the 28th, he was attacked with a fit similar to the last; much pain in the head; pupils more dilated; pulse 72, intermittent; belly regular; gums sore. Continue the remedies.

August 31st.—More lively; some ptyalism. Let a blister be applied to the head, and the remedies continued.

September 1st.—Has complained much of his head; shiverings, and convulsive twitching of the extremities; belly regular; pulse 94; ptyalism. Continue the remedies.

September 5th.—Ptyalism increased; vertigo and much vomiting; convulsive motions continue; much pain in the head; the frontal bone appears more prominent; pulse, yesterday, 96; to-day, after vomiting, 150; belly regular. Omit the digitalis; continue the pills and ointment;—let him have nourishing diet, and ℥iv. of port wine daily.

September 7th.—Fits return frequently; startings; tremor; screaming; ptyalism complete; belly regular; pulse cannot be reckoned from his restlessness; cannot take his medicine, or bear the ointment. Continue the wine;—æther sulfur. gutt. xx. tinct. opii. gutt. x. to be taken immediately, and repeated in four hours.

September 8th.—Fits return on the least motion; could take only one of his draughts; ptyalism diminished; pulse 80, moderately full. Continue the wine.

September 9th.—Died this morning at six, without much expression of pain.

SECTIO CADAVERIS.

In sawing through the cranium, about three ounces of fluid escaped; the calvaria being removed, the dura mater appeared much collapsed on the right posterior lobe of the cerebrum; on opening the dura mater at that part, a ruptured sac was found in a cavity, formed in the substance of the cerebrum, which, when filled with water, contained about four ounces of fluid; it was separated from the dura mater by the cerebrum, one eighth of an inch in thickness. Each ventricle was distended with about an ounce of fluid; the blood-vessels on the surface of the pia mater were very turgid; the sutures of the cranium were completely closed.

On the first admission of this patient, the only symptoms that might indicate apoplexia hydrocephalica, were pain in the head, and vomiting of a greenish fluid, but these are by no means diagnostic symptoms. It is very difficult, perhaps impossible, to give an infallible diagnostic at the commencement of the disease. Of this the learned and accurate Fothergill was fully aware, when he remarks, "it may be sufficient to mention, that, whenever I am called to a patient, in the early stages of this distemper, I proceed in the same manner as if the disease was supposed to arise from worms, or some cause of irritation capable of being removed *." And again, "By treating the complaint, however, in the manner above-mentioned, we lose no advantage, we are almost sure to succeed if the case be only worms; but if otherwise, we at least are treating it in the most rational method, increasing all the secretions, and thereby preventing any addition to the extravasated fluid to the utmost in our power †." One symptom usually attending this disease, "pain in the limbs," was absent in this case, nor was the patient constipated, a symptom considered a diagnostic. "Another circumstance is familiar, if not peculiar to this disease; I recollect not one instance, in which the patient was not costive, and in which likewise, it was not without singular difficulty that stools were procured ‡."

The disease in this lad must have been making very gradual progress, previous to his admission, and insidiously advanced to July 13th, when its nature became evident. The difficulty of detecting this malady is noticed by Heberden, in the following sentence:

"Neque tamen perpetuum est, ut hæc signa ex hydrope cerebri nascantur; etenim vidi ea omina in puero, cujus cerebrum non nisi consueta humoris copia humectatum erat, testi peritissimo anatomico, qui cadaver inciderat §."

The prevalence of dyspepsia, hysteria, gastrodynia, and hypochondriasis, may be attributed to close confinement, bad air, improper food, the habitual use of tobacco, and the abuse of tea, or all these combined. The females are most subject to these diseases, and fall a ready prey to the itinerant quack, or are easily induced by the advice of some officious neighbour to smoke, or to

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* Lettsom's Fothergill, Vol. II. p. 72.

† Id. p. 73.

‡ Id. p. 69. Edinburgh Medical and Surgical Journal, Vol. II. p. 55.

§ Heberden, Commentarii Morborum, p. 186.

to take rum and milk, or other spirits, although the inhabitants are not, by any means, addicted to the abuse of spirits; nor is there a town in England where the lower class are less accustomed to intoxication: consequently, the prevalence of dyspepsia cannot arise here from that habit, which, according to Willan, appears to be the case in London*.

The great abuse of tea must be very injurious; it is drank by the lower class regularly twice, and very often three times a-day, and as hot as the stomach can bear it. Whether the noxious effects arise from the warmth of the fluid, or from the herb itself, is a matter at present undecided. Warm water is a powerful stimulus to the stomach, and is recommended with that view in diseases arising from a torpid state of that organ, particularly when the person has been addicted to the abuse of spirits, or to the use of powerful condiments. The smell of the herb in its dried state is said to be very injurious. "Cognovi tres homines qui in exploranda et olifacienda thea occupati, tremoribus atque aliis hypochondriasis malis afflicti sunt, quæ omnia theæ imputarunt; rectne, an secus, viderint alii qui amplioris nacti sunt occasiones perspiciendi quid in hac re verum sit†."

In gastrodynia, the oxide of bismuth, as recommended in this country by Dr Marcet‡, has been exhibited with manifest advantage, in combination with the compound powder of tragacanth, or the gum pill. In two cases, the medicine was intentionally omitted during the progress of the cure, when the pain returned with its former violence, and was again removed by its exhibition. It may be considered almost unnecessary to remark, that it is useful only where a feeble pulse indicates a want of tone in the stomach. The use of this medicine in five cases would not be sufficient proof of its efficacy, were it not confirmed by the cases Dr Bardsley had presented us, in which its curative power was distinctly evinced §.

Mons. Leroux, one of the editors of the Journal de Médecine, after noticing Dr Marcet's paper on the oxide of bismuth in gastrodynia, adds, "Il a deja été parlé dans ce journal des effets du magistere ou oxide blanc de bismuth. Je l'ai depuis employé chez un assez grand nombre de malades, et le plus souvent avec succés; mais j'ai été obligé d'en porter le dose beaucoup plus haut qu'il n'est indiqué dans l'article qu'on vient de lire. J'en ai quelquefois donne chaque jour jusqu'à trente grains divisés en trois doses, et je n'en ai jamais vu resulter d'inconvenient. Ce medicament ne produit meme aucun autre effet sensible que celui de faire cesser ou diminuer les douleurs d'estomac *."

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* Reports, p. 148.

† Heberden, Com. Morb. p. 201.

‡ Memoirs of the London Medical Society, Vol. V.

§ Bardsley's Medical Reports, p. 218.

The patient affected with obstipitas lateralis has been dismissed without any permanent relief. This disease is described by Sauvages in the following words : " Sindicus Genevensis sexagenarius vir rebus publicis diu intentis, indcidit in obstipitatem lateralem ; caput ipsi, vellet, nollet, dextrorsum vertebatur, sine inclinatione, adeoque ab oppositi lateralis sterno-mastoideo musculo trahebatur fortius, et ab antagonista debilius; in utro horum foret vitium roboris aucti, vel imminuti vix cognosci poterat; nec tensio alterutrius musculi id satis indicabat †."

This case of Sauvages has been fully quoted, the book being so scarce as to give but to very few the opportunity of reference. Its analogy to the following will be very evident.

John Marriot, æt. 35, single, frame-work nitter, came under the care of the reporter, October 28th, 1806.

Complains of a violent spasmodic affection of the left arm, and the whole of the sterno-cleido mastoideus muscle, by which the palm of the hand is everted, and falls in a line with the elbow-joint; the head is forcibly turned to the left side, and the angle of the mouth drawn downwards : this action, which is sudden and unexpected, is attended with much pain to the parts affected, continues for a few seconds only, as suddenly retires, leaving each part of its natural appearance, and free from pain ; no pain in the head ; tremor, anxiety ; speech at times slightly affected, no nausea, no stupor ; sound sleep, functions natural, pulse feeble.

These complaints were preceded by a deprivation of motion in the left arm, about fourteen months since. The present convulsive state commenced three months ago, very suddenly, and has continued ever since, returning upon the slightest motion of the left arm, except in one instance, when, after taking exercise on an ass, which produced great disposition to sleep, he awakened free from complaint, but the disease returned in half an hour with its former violence.

Attributes the disease to bathing in the sea when heated.

Use the warm bath to 100° Faren. twice a-week, and after its use take pulv. ipecac. comp. gr. x. in pills, every second hour, until a profuse sweating is excited, and let him take tinc. opii gutt. x. every hour, until the spasms are moderated.

October 31st.—The spasms were alleviated by the opium, which was then taken every second hour ; the body was kept regular

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* Journal de Médecine, par Corvisart, April 1807, Vol. XIII. p. 280.

† Nosologia Methodica, 4to. 1768, Tome I. p. 537.

regular by an aperient medicine, but no permanent relief being obtained, let him have carbonat of ammon. gr. x. opium gr. ß in a bolus every three hours, with ℥iß of a cordial camphorated mixture —Omit the former remedies.

November 11th.—No amendment; belly costive. Omit the bolus. The cold affusion has been employed for the last eight days every morning; two purging pills to be taken every two hours until they operate.

November 15th.—He used the cold affusion every other day, and repeated his purgative; the spasms are not perceptible as he lies in bed, but return in the erect posture; much chillness from the bath. Omit the bath, but repeat the purgative in the morning

November 17th.—The purgative has operated fully. No amendment.

Sulphat of copper, gr. ¼, gum pill gr. xv. in the form of pills, to be taken twice a-day; repeat the cold affusion.

November 27th.—Found considerable relief from his medicine for a few days, but to-day he is the same as usual; he has required the purgatives about every third day.—Omit the pills; continue the affusion and purgative occasionally; nitrate of silver, gr. ¼ twice in the day in a pill.

December 11th.—Certainly better; the disease returns in imperfect spasms; the arm can now be held during the spasm, and preserved from its power; slight soreness in the pectoral muscle; complains of pain in the last lumbar vertebræ; belly costive: has continued the nitrate, gradually increasing the dose to one grain twice a-day, taking the purgative occasionally: wishes to omit the cold affusion.

December 13th.—Much the same; the medicines continued. Electrical sparks to be drawn from the head and arm.

December 14th.—Spasms quite as violent as ever, and return as he lies in bed; speech much affected. This retrograde state of his disease he attributes to agitation from a consultation on his case with Dr Storer, Physician-Extraordinary to the Institution, —It was thought proper to continue the same remedies.

1807. Jan. 5th—Spasms less frequent, and diminished in violence; pulse 96, moderately full and regular; belly regular without the aperient; relates, that during last night, he heard a considerable report in his head, like the bursting of a bladder, without producing pain, but a sensation as if something within the cranium had suddenly ruptured—Has gradually increased the nitrate of silver to gr. iß twice a-day; continues the electricity and affusion.

January 7th.—Not so well; wishes to omit the affusion.

January 26th.—The nitrate has been gradually increased to gr. 1¼ three times a-day, and castor oil taken occasionally; the spasms have become less frequent, and more moderate; belly costive. Continue the nitrate, electricity, and castor oil.

January 31st.—Spasms are returned with their former violence; much flatulency and heat in the stomach and bowels; belly regular. Repeat the castor oil; omit the nitrate and electricity; let a blister be applied to the affected side of the neck. Pulv. cinch. flav. ℈j to be given three times a-day, and to use the cold bath every morning.

February 9th.—Found temporary relief from the last remedies, but now much the same. Omit the bark, pulv. belladonæ gr. ß night and morning; repeat the bath.

February 13th.—The belladona has been increased to a grain night and morning, without any amendment. He is very unhappy, and wishes to return home; he cannot be considered as in any respect relieved.

March 16th.—Returned again to the hospital. Since he left it the spasms have very much increased; at present they are more violent than ever: pulse very feeble; great restlessness; pervigilium, belly regular, appetite good, but is prevented from taking the usual quantity of food by the violent spasms following the slightest exertion. Tinct. opii gutt. xxx. every three hours; an opening medicine occasionally.

March 23d.—The tincture was increased gutt. x. before the spasms were moderated; the aperient evacuated dark-coloured feces; the spasms have moved more into the arm. Pil. opii. gr. v. Suc. spiss. hyosc. gr. ij. in a pill every third hour: rub the neck with the ammoniated oil.

April 2d.—Sleeps better, spasms moderated, appetite good, feels more feeble, belly obstinately costive. Omit the medicines; solut. arsenicæ (Fowler), gutt. iv. three times a-day.

April 20th.—Found relief from the solution for a few days; it has been increased one drop each dose; face and mouth much swelled,—bloated appearance; slight ptyalism; spasms much increased; great anxiety and irritation; belly regular. Omit the arsenical solution, and let him take tinct. opii gut. x. every second hour, with ℥j. of a cordial mixture.

April 21st.—Spasms and anxiety moderated; belly regular—Dr Storer attended in consultation, and recommended the decoction of cinchona, with the camphorated tincture of opium.

April 27th.—Sleeps better, spasm as before. Continue the bark, opium, and calomel, each gr. ij. in a pill, to be taken night and morning.

May 9th.—Pulse quick and more full; stitches in the left side;

belly regular; no soreness of gums; spasms moderated. Continue; a stimulating liniment to be rubbed on the neck and arm.

May 14th.—Spasms moderated. Omit the liniment; ung. hydr. fort. ℈j. to be rubbed into the sterno-cleido-mastoideus night and morning; the pills and bark continued.

June 6th.—He walked three times across the ward without a convulsion; can move with more ease, and gains more command over the arm; belly regular. Continue.

June 13th.—Some soreness of the gums; spasms less powerful. Omit the pills; continue the decoction and ointment.

June 18th.—Can walk four times the length of his ward without spasm; gums well. Repeat the pills; continue the bark and ointment.

June 20.—Continues better; gums sore. Omit the pills.

July 3d.—Whilst sitting with his left hand supported on the bed he continues free from spasm; thinks his general health much improved. Pulse 96, regular but feeble, tongue clean, belly open, sleeps well, appetite good, free from thirst, feels a tickling sensation down the affected arm. Omit the medicines; let him take calomel gr. j. opium gr. ij. in a pill night and morning, and ℥iss. of a mixture with carbonat of iron and myrrh, three times a-day.

July 7th.---Much the same; omit the pills; continue the mixture. Calomel gr. ss. opii gr. ij. in a pill three times a-day.

July 13th.—The number of pills have been gradually increased to two night and morning, and one at noon, being ten grains of opium, and two grains and a half of calomel daily. Great inclination to sleep; spasms so much overcome as to permit him to walk up and down the ward during the visit, without their return, resting his left hand at the same time on his hip. Omit the ointment; only three pills to be taken daily; the liniment to the arm repeated.

July 18th.—Some retention of urine, drowsiness; spasms stronger than at the last report, but are entirely absent for some time, at irregular intervals; pulse stronger. Continue.

July 20th.—Spasms much increased since last report; great depression of spirits; belly has been very open, attended with vomiting. Very much wishes to return home.

Dismissed without any permanent relief.

This patient always found particular relief from the use of opium, but it required frequently repeated doses to keep up the effect, and cordials to overcome the depression that followed. All fresh medicines gave temporary relief, but, after a time, the spasms returned with their former violence. The nitrat of silver and the arsenical solution were exhibited until the effects they produced rendered it necessary to omit them. Riverius, in his Observationes Communicatæ [*], relates a case of an unusual convulsive disease, not much unlike the one just now related, cured by the use of mercury; this medicine had also a full trial, but without affording any permanent advantage. He was subject to great nervous irritation, which was particularly troublesome when any medicines failed in producing permanent relief.

The reporter has received communications requesting information on the plan by which the hospital is warmed, in explanation of his remark on that subject [†]. Being anxious to comply with any request that may be advantageous to charitable institutions in general, he has procured, from the philosophical Inventor, a history of his method, with permission to communicate it to the public. That the whole may be more fully illustrated, a sketch is given from the pencil of Mr Stavely, whose accuracy is equalled only by his anxiety to promote science.

History.—"These stoves were first constructed in the year 1792, in consequence of the inconvenience experienced by the then existing modes of warming the large rooms in which manufactures are carried on. The open fires consumed a large quantity of coal, without materially heating the room; the people were therefore obliged to waste much time in warming themselves, and their health could not but be injured more or less by the alternate heats and chills which they were thus obliged to experience.

"The close iron stoves, so generally used, had not this inconvenience, but were, perhaps, worse upon the whole, being dusty and dangerous, and, by being heated red hot, which they were constantly subject to be, contributed to render the air unwholesome and offensive, by the calcination of the iron, as well as by the burning of the various substances which are constantly floating in the air of a room.

"To introduce a large quantity of the purest air which could be procured externally, with simplicity, and to transmit the greater part of the heat generated, whatever that may be, through the stove, and to unite it with this air, were the leading objects of the improvement.

"In the common stoves, the combination of the heat that is generated with the external air is affected very imperfectly; for the air being a very bad conductor of heat, and being also transparent, is incapable of having heat communicated to it by radiation; whence it follows, that the particles of air only, which are in

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[*] Riverius Opera Omnia. Ed. Francofurti, Fol. 1674, p. 687.

[†] Edinburgh Medical and Surgical Journal, Vol. III. p. 313.

absolute contact with the stove, are heated by it,—then ascending, in consequence of the decrease of their specific gravity, are replaced by others; but this is performed so slowly, that the stove is covered as it were by a blanket, and very easily becomes red hot. It was therefore conceived, that if the ascending heated air was inclosed in a tunnel of considerable perpendicular height, and that if all the air which would, in consequence of the ascending force of the column, tend to rush in at the bottom, was made to impinge upon all sides of the stove, it would cool the stove, by causing a much larger quantity to come in contact with it, be itself heated of course, and thus produce a very considerable rapid current of air.

"The experiment being first tried as above, in a building containing about 200,000 cubic feet of space, and containing a great number of windows, was found to answer completely; but the stove being made of cast iron, wrought iron plate was substituted in subsequent experiments, as being, for many reasons, much more eligible. In some recent experiments, the sides of the stove, as well as the walls surrounding it, have been built perpendicular, at the distance of about seven inches; and wrought iron tubes have been inserted into each hole of the side walls, as well as in the arch over the stove, like the nozles of so many bellows, which, by causing every particle of air that is admitted, to come twice in contact with the stove, is believed to be a material improvement."

Explanation of the Plate.

A. Is a front view of the brick-work, which supports and surrounds the cockle.

a. The holes in the brick-work for the entrance of atmospherical air.

b. An iron plate acting as a damper, by partially or wholly closing the end of the horizontal chimney, which is performed by turning the handle.

c. Around the circle of which *it* forms the centre, are figures to guide the servant to the necessary degree of elevation or descension of the damper.

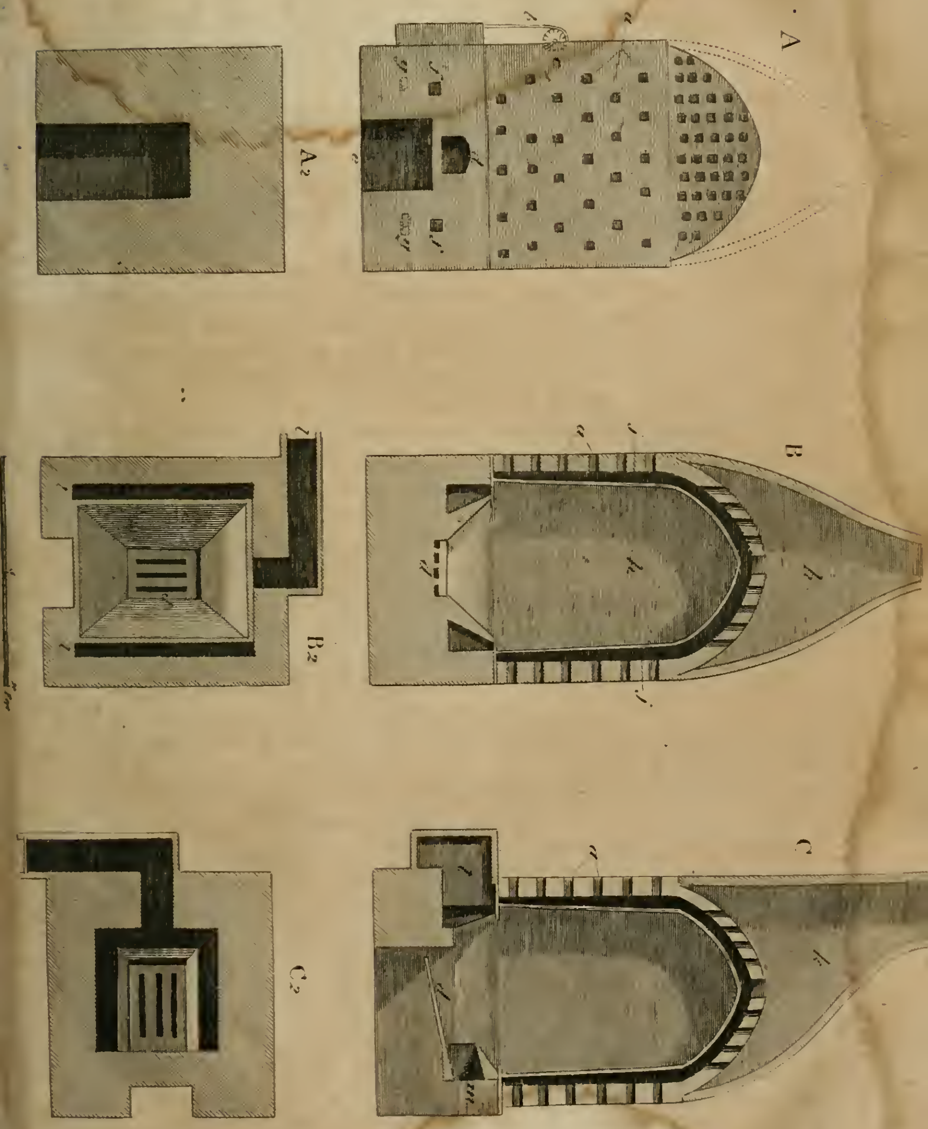
d. The fire-place, or mouth of the cockle, which is made to slope into the brick-work.

e. The pit for ashes.

f. f. Two rakes made of cast-iron, and fixt in a groove in the brick-work, on each side of the grate, for cleaning the chimney flue, or to keep open a small slit made through an iron bar the whole length of the cockle, in order to form the communication betwixt the flue and the inside of the cockle.

Edinburgh Medical & Surgical Journal Vol. 4

Stove for heating Large Buildings



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g. g. Are two temporary bricks that shut up a space made for the reception of the soot raked from the flues.

A. 2. Shews the lower part, which has been presented in elevation.

B. Is a section of *A.*

a. The air holes.

(*d.*) The grate.

h. The cockle.

j. The space between the cockle and brick-work.

k. The brick-work tunnel for the conveyance of heated air.

B. 2. Is a view of the fire-grate with the horizontal chimney.

d. The grate.

l. l. l. The chimney flues.

C. Is a transverse section of *A.*

m. The entrance to the fire-grate, or mouth of the cockle.

d. The grate.

l. The chimney.

a. The air-holes.

k. The tunnel for heated air.

C. 2. Represents the passage of the smoke by the flues. The smoke rising from the fire to the top of the cockle, is forced down upon the fire, and passes off by two lateral branches, through a very narrow chink at the bottom of the cockle, into the horizontal chimney, which is carried into a vertical chimney, passing up by the side of the brick-work.

The cockle inclosed by brick-work, is placed in a small apartment, about seventeen feet below the wards to be warmed; the brick-work at the bottom is set about three inches from the cockle, but, as it is carried up perpendicular, will be five or six inches from it at the top, owing to the sides of the top of the cockle inclining inwards. The cockle is made of wrought plate iron, one-eighth of an inch in thickness, four feet square, and five feet high. The atmospheric air enters by an open window, passes through the holes in the brick-work, plays on the cockle, is heated, ascends, and, by the tunnel, is carried into a cavity, formed by making an underdrawing under the gallery of the upper rooms, leaving a space between the old ceiling and this underdrawing, two feet in depth, in the greater part seven feet broad, and 138 feet long; out of which arise tin tubes, about eight inches in diameter, proceeding into the separate apartments, two in the larger, and one in the smaller, the openings of which are closed, or partially opened by a cast-iron door, with a notched latchet.

A small fire in this cockle, should, when properly managed, warm about 200,000 cubic feet of space. The heat at the mouth of the tin flues should be about 120° Faren. and the air of the ward at 60°. The average quantity of coal daily consumed by the cockle, from the month of October to May, is about four cwt.; it is fed every hour, and the quantity nearly equally proportioned each time, till ten at night, when a larger quantity is required to last for the remainder of the night.

Nottingham,
August 24*th,* 1807.

II.

Some Observations on the Diagnosis between Fever and Phrenitis, and on the Nature and Treatment of those Diseases, in a letter to Dr Andrew Duncan, Jun. from Dr A. PHILIPS WILSON.

SIR,

THE following observations are addressed to you, in consequence of an attempt lately made to prove, that fever and phrenitis are the same disease. Had this been the attempt of a trifling writer, it might have been passed over in silence; but supported as it is, in the work I allude to *, by many plausible arguments, drawn from an accurate knowledge of the phenomena of fever, it is calculated, if the opinions maintained in it be erroneous, to do much mischief.

In the county where I live, in which fevers have long been more prevalent than in most other parts of England, the fatal effects of the practice to which it leads are now, after a full trial, generally admitted; for here, as in most other places, there was, at one time, a strong prejudice in favour of this practice; and it is only of late years that it has been wholly abandoned: but of this afterwards, for the importance of the subject will, I hope, excuse my treating of it at some length. I feel myself more particularly called upon for these observations, because, about the same time that the above work appeared, I laid before the public very opposite opinions, in an essay on the nature of fever.

Dr Clutterbuck's position, that fever consists in an inflammation of the brain, and is consequently of the same nature with phrenitis *, he endeavours to support by a review of the symptoms and causes of fever, by the appearances on dissection, and by the mode of treatment which he maintains to be the most unsuccessful in it.

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* An Inquiry into the Seat and Nature of Fever, by Henry Clutterbuck, M. D &c.

The first position which he endeavours to establish is, that there is no general disease. He takes a rapid survey of diseases in the order in which they stand in Dr Cullen's Nosology. After observing that the *phlegmasiæ*, *hæmorrhagiæ*, and *profluvia* are essentially local diseases, he observes, "with regard to the remaining *orders* of the *pyrexiæ*, the *febres*, and *exanthemata*, it will be my business hereafter to shew, that they form no real exception to the general rule above suggested." He then makes some observations on the classes of *neuroses*, *cachexiæ*, and *locales*, and observes, that if there is any general disease, we should expect to see it in cases where venereal and other poisons are received into the circulating system, and, consequently, applied to every part of the body; not recollecting that most noxious substances are injurious only to certain parts of the system. Tartarised antimony may be applied to the mouth with little or no effect, but in the stomach it excites violent efforts; ginger cannot be held in the mouth, but in the stomach and bowels it occasions little or no sensation; the variolous matter introduced under the skin of the predisposed, excites inflammation and fever, but it may be swallowed without any sensible effects.

Dr Clutterbuck then proceeds, "From what has been said, therefore, it may be concluded, that, properly speaking, there is no such thing as an universal disease," seeming to forget, that he has referred the reader to some future part of his work for the proofs of *febres* and *exanthemata* being local diseases. And, without any farther observations on this head, he remarks, in the second paragraph of the second chapter, "but I have endeavoured to shew, in the preceding pages, that neither this nor any other disease is entitled to the denomination of general or universal."

In the first of the foregoing quotations, he refers to a succeeding part of the work, in the others to a preceding, for the proofs that fever is not a general disease; and, in the pages which intervene between these passages, there is no attempt to prove this position. The preliminary observations then, in which Dr Clutterbuck endeavours to prove, that there is no general disease, properly so called, may be overlooked in the discussion before us. If it can be proved, that fever is not such a disease, it must be by a review of its phenomena: the succeeding part of Dr Clutterbuck's work contains this review, in which I am now to follow him.

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* "In conformity then, with the view of fever above given," Dr Clutterbuck observes, "we should consider it as a topical affection of the brain, founded in inflammation; in a word, as a variety of phrenitis." See Part I. page 228 of Dr Clutterbuck's work.

Dr Clutterbuck endeavours to prove, that the symptoms which immediately arise from an affection of the brain, constituting derangement of the animal functions, are the only essential and primary symptoms of fever, the derangement of the vital and natural functions being only secondary or accidental. I shall first follow Dr Clutterbuck in his observations on this head, and then compare the symptoms of fever and phrenitis.

In the second section of the second chapter, he has, with minuteness and accuracy, detailed the various affections of the animal functions observed in fever, from which it unequivocally appears, as every one will be ready to admit, that the functions of the brain are generally much deranged in this disease. But are not the functions of the stomach as much, and much more uniformly, deranged in fever? Fever is often present to a great degree, nay, even proves fatal, without derangement of the mental functions, but never without derangement of all the functions of the stomach. May we not, then, by a parallel mode of reasoning say, that the stomach, rather than the brain, is the seat of fever?

It appears to me, that Dr Clutterbuck has not sufficiently considered the manner in which the brain is necessarily affected by the various states of the circulation. The blood being returned from it by canals that are destitute of muscular power, and in which, consequently, the motion of the blood is supported wholly by the *vis a tergo*, when the rapidity of the circulation is increased by any cause, there must necessarily be a turgescence of the vessels of the head, the canals, through which the blood is returned from the brain, not being excited to increased action to counterbalance the increased action of the vessels which bring the blood to this organ. This seems to be a provision of nature, in order to afford the brain a copious supply of blood, at times when much nervous energy is required; for running, or any other exercise which considerably quickens the circulation, occasions the same turgescence of the vessels of the head, flushing of the countenance, and beating of the temples *, and, if long-continued, the same headach and uneasiness which the first stage of fever does. These are the unavoidable consequences of an increased velocity of the circulation; and wherever this exists, therefore, be it from what cause it may, it is superfluous to look for any other cause of such symptoms.

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* The blood not being returned from the internal parts of the head, with a velocity corresponding to the increased velocity with which it is sent thither, a larger portion of it passes by the external vessels; hence the flushing of the countenance, beating of the temporal arteries, &c. which attend an increased velocity of the circulation.

If, on the other hand, we diminish the force of the circulation, by abstracting, for example, part of the blood, we find, that as the strength of the pulse is reduced, the vigour of the brain is in the same degree lessened. The sight wavers, the feeling becomes indistinct, and syncope supervenes. If the bloodletting is repeated, subsultus tendinum, spasms, general convulsions, in short, all the nervous symptoms which attend the second stage of fever shew themselves. We know then, that a weakened circulation is capable of producing these symptoms; when, therefore, we observe them accompanying such a state of the circulation, it is superfluous, and, consequently, inconsistent with just reasoning, to look for any other cause of them. These observations it is necessary to keep in view, in perusing what I am about to say of the state of the vital and natural functions in fever.

" The vital functions," Dr Clutterbuck observes, " namely, respiration and the circulation of the blood, are liable to be variously affected in fever, but in a secondary way only." With this sentence he begins his observations on the state of the vital functions in fever; and the only argument he adduces in support of it is, that the pulse in fever is sometimes as slow, or slower than in health.

I think Dr Clutterbuck would not have laid so much stress on this single fact, if he had recollected how rarely it is observed in fever, and how many local affections are constantly supervening in this disease, capable of disturbing its usual course. Had Dr Clutterbuck ever seen fever with a slow pulse, he would have mentioned it, as he quotes the observations of several other writers to prove that such cases exist. I never saw such a case Now, Dr Clutterbuck and myself have seen at least some hundred cases of fever, in all of which the pulse was uniformly more frequent than in health. A physician, I believe, may practice forty years in this country, and not see a case of simple fever in which the pulse is as slow as in health. May we not hence alone infer, that when a slow pulse is observed in fever, something has happened to disturb the usual course of the disease: but we have more direct proof that this is the case. Most of the writers Dr Clutterbuck quotes, respecting the slow pulse in fevers, practised in warm countries, where fevers, unattended by any local affection, are seldom seen. Thus, Dr Clutterbuck himself mentions, from Dr Wittman's account of a malignant fever of Syria, that, in the worst cases, the pulse was hardly changed; but he also observes that the pupils were dilated. In Dr Chisholm's account of the fever of Grenada, there is a very easy explanation of both symptoms. In many of his patients also, the pulse was slow, and the pupil dilated; and, on opening the head after death, he found a collection of water in the ventricles, an appearance which we know, from dissection, does not belong to simple fever.

Besides, this slow pulse is no proof of the healthy state of the circulating system. In these complicated cases its frequency is sometimes about the same as in health; but this seems to be accidental, for it as often falls below the natural frequency. In the fever of Philadelphia, in which there was always evident marks of some local affection, Dr Rush found it as low as 30 *. Such cases as these cannot, surely, be adduced to prove that, in simple fever, the state of the circulation does not correspond with that of the nervous system.

Let us take a cursory view of the progress of simple fever. At the commencement, when the patient complains of a sense of general debility, when the limbs totter, the tongue trembles, the mind becomes feeble, unsteady and anxious, the sight wavers, the hearing is confused, the smell and taste often lost, and the feeling indistinct; along with these symptoms the pulse is weak, small, frequent, perhaps irregular, the breathing frequent, feeble, and interrupted with sighing, the features, and other extreme parts, shrink, the various secretions begin to fail, the tongue becomes clammy, the throat dry and rough, the appetite is impaired with thirst and constipated bowels, the urine limpid, and in small quantity, and the skin cold, pale, dry, and shrivelled. By degrees we see this state of general debility changing to one of a different nature. The strength of the pulse increases, the breathing becomes fuller and less feeble; the blood is now impelled with vigour into the extreme vessels; the paleness, shrinking, and coldness of the skin is succeeded by turgescence, redness, and heat; instead of the feebleness which attends the first stage of fever, the muscles now acquire a preternatural vigour; the sensibility, instead of being impaired, is now morbidly accute, and various other symptoms, denoting an increased force of circulation, gradually shew themselves. These symptoms of increased excitement continue till the vital powers begin to be exhausted; and, in proportion as this happens, does not the nervous

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* Towards the fatal termination of fevers, indeed, the pulse, at the wrist, sometimes beats less frequently than the heart.

vous system shew corresponding marks of debility? Or, if the increased action of the heart and arteries be lessened by artificial means, by abstracting, for example, a considerable quantity of blood, does not the same debility of the circulating, followed by the same debility of the nervous system, ensue, only more early than when the fever is left to run its natural course?

In considering the state of the animal functions in fever, Dr Clutterbuck begins with an observation, surely very inconsistent with every thing we know of the nature of this disease, that the power of the interstitial absorbents continues equal to what it is in health, or is even increased. This he infers from the wasting of the body in fever. But the wasting in simple fever is never very rapid, and is readily accounted for by the interruption of the powers of assimilation. That the power of the absorbents is impaired in fever, appears from the stagnation, and consequent putrefaction of the various secreted fluids. Why does the saliva, the secretion by the skin, &c. acquire a putrid smell in typhus, if the power of the absorbents, whose office it is constantly to remove such parts of these fluids as become useless or noxious, is unimpaired or increased?

Under the head of animal functions, Dr Clutterbuck necessarily notices the affection of the stomach which so uniformly attends fever, but, consistently with the opinion he defends, he considers it the consequence of the diseased state of the brain. No doubt diseases of the brain influence the state of the stomach in various ways; but, in the present instance, there is a strong objection to Dr Clutterbuck's mode of reasoning, because, in fever, the affection of the stomach almost uniformly precedes that of the brain; and indeed, in many fevers, particularly those from contagion, some affection of the stomach is often the first symptom. On what principle, then, can we regard the affection of the brain as primary, and that of the stomach as symptomatic, in this disease? To prove that such affections of the stomach frequently arise from diseases of the brain, is going but a very short way; the converse of this is equally true: many of the affections of the brain, observed in fever, are such as arise from diseased states of the stomach.

It would be easy to shew, from direct experiment, that when the stomach and bowels are affected by opium received into the system, it is not, as Dr Clutterbuck supposes, through the medium of the brain.

Such are the arguments which Dr Cultterbuck derives from the symptoms of fever, in support of his hypothesis. It will place the preceding observations in a clearer point of view, to compare together the symptoms of fever and phrenitis.

In simple fever, there is a general affection of the sanguiferous and nervous systems; to these, in the phlegmasiæ, are superadded certain local symptoms, pain, and the derangement of some of the functions. But when the inflammation is seated in the brain, on which sensation in every part of the system depends, the symptoms of the local affection are not local, but general symptoms. Thus it is that phrenitis assumes so much the appearance of simple fever; but, on a closer view, we still find an essential difference between these diseases.

Phrenitis is, in every respect, except the universality of the symptoms produced by the local affection, of the nature of a phlegmasia. The fever is regulated by the state of the local affection; it is also a fever of the same nature with that which attends other inflammations; it is a synocha with a contracted hard pulse, which we never meet with in simple fever. Although the pulse, in phrenitis, is reduced by evacuations or any other cause, it still, while the inflammation continues, retains its hardness; whereas in simple fever, as the strength fails, the pulse always becomes more and more soft. Even from the commencement, the pulse in phrenitis is sometimes very small and hard.

There is nothing in true phrenitis analogous to the second stage of simple fever. In most cases of simple fever, the state of increased excitement is in a few days succeeded by that of debility, which is protracted for a long time, and forms the chief part of the disease. In phrenitis, as in the other phlegmasiæ, when the inflammatory symptoms are removed, nothing remains but a degree of weakness proportioned to the severity of the preceding disease. "Delirium vero febrile," says Lieutaud, "præviæ febri appenditur, solosque febricitantes adoritur, cur minime mirum si, hoc sedato, perstet febris, solitamque periodum absolvat. Aliter se res habet sub phrenitide, si enim resipiscant ægri illico sanati restituuntur, si excipias virium debilitatem, qua aliquandiu tenentur hoc gravissimo morbo convalescentes."

In the fatal, as well as the favourable termination of phrenitis, it differs essentially from simple fever. Instead of the tedious and gradually increasing debility which usually precedes death in the latter disease, in phrenitis, the pulse often sinks suddenly, and the patient soon expires.

Thus, in their general course these fevers differ very essentially; on a closer view, we detect other differences which assist the diagnosis. Delirium is not a common symptom of the first stage of simple fever; and when it does appear, the febrile symptoms are greater in proportion to the delirium, than in true phrenitis, in which, as in all the other phlegmasiæ, the pulse is seldom so much affected in proportion to the other symptoms as in simple fever. In some cases of phrenitis, the pulse has been so little disturbed, that the disease has been compared to a temporary mania. The author just quoted, observes of phrenitis, "Interea exsurgit febris nunc levis, nunc intensa, nec semper morbi impetui consona, adeo ut sola diuturnitate discrepare videatur hoc delirii genus a mania, quam contumaciorum esse nemo nescit."

The diagnosis between fever and phrenitis is also assisted by the greater tendency to derangement in the latter disease, in those organs with which the brain more immediately sympathises. From the well known sympathy between the brain and liver, derangement of the biliary system more frequently attends phrenitis than simple fever; and as irritation of the primæ viæ frequently produces phrenitis, as well as (I believe I may say) all the other phlegmasiæ, worms and other causes of irritation in these cavities accompany it, at least in adults, more frequently than they do simple fever.

Amongst other writers on phrenitis, I would recommend to the reader's attention Lieutaud's Synopsis Medicin. Pract., from which the above quotations are taken; Saalman de Phrenitide, in the Act. Euridit. Lips.; and Eller de Cog. et Cur. Morb.

"It is allowed on all hands," Dr Clutterbuck observes, "that phrenitis does frequently occur in fever, and the combination, in my opinion, is much too common to be merely accidental." That inflammation of the brain should not be a rare occurrence in fever cannot surprise us, as many other visceral inflammations are as frequent, and some of them much more frequent, attendants of this disease. De Haen (Rat. Med.) and others, relate many cases of remittents, in which the stomach and bowels were found, on dissection, inflamed and sphacelated. This combination has been observed to be remarkably frequent in certain epidemics. Bartholine (Hist. Anat. Rar.) in particular, gives an account of an irregular remittent which raged in Copenhagen, which was always accompanied with inflammation of the stomach and duodenum; and we have an account of a similar fever which raged at Leyden, by Professor Sylvius de la Boe, (Prax. Med. Append. tract. x.)

Dr Clutterbuck endeavours to support his opinion by the appearances on dissection in those who die of fever: but all the facts we possess on this subject seem to oppose his opinion. We cannot, surely, admit with Dr Clutterbuck, that anatomists are so little acquainted with the structure of the brain, that they cannot discover what morbid appearances have taken place in it; nor can it be admitted, that effusion of serum, or turgescence of vessels, are sufficient proofs that inflammation has existed. In the works of Bonetus, and Morgagni, the reader will find a variety of cases of apoplexy and epilepsy, in which these appearances were found after death, where there had been no symptom either of fever or phrenitis. Traces of inflammation observed in the brain when symptoms of phrenitis supervene on fever, as seems to have happened in some of the cases mentioned by Dr Clutterbuck, cannot surely be adduced as proofs that the fever arose from the inflammation. We have the authority of Morgagni for saying, that fever may prove fatal without leaving behind it any change of structure to be discovered by dissection.

The appearances in the brain in those who die of true phrenitis are exactly the same with those observed in other inflamed organs. If the inflammation terminates in abscess or gangrene, these have the same appearance in the brain as in other organs; and if the patient dies before the inflammation terminates in these ways, we do not find the brain and its ventricles merely covered with large turgid vessels, but uniformly red, as other inflamed parts are. Thus Boerhâave demonstrated to his pupils the brain of a young woman who died of phrenitis; the pia mater was uniformly red and inflamed, and even the cortical part of the brain, which is naturally of so different a colour, appeared as red as if its vessels had been artificially injected.—(See Van Swieten's Com. in Aph. Boerhâavii, Aph. 775.)

That the hydrocephalus internus is an inflammatory affection, appears from many observations, and particularly from its having been found on dissection, that, when the watery effusion, which, in ordinary cases relieves the inflammation, has not taken place, the brain presents the same appearances which other inflamed viscera do. Dr Quin relates two cases of this kind. In describing the appearances on dissection in one of these, he says, the cerebrum and cerebellum resembled an anatomical preparation, in which the utmost force of injection had been employed. But we cannot surely agree with Dr Clutterbuck, that there is any stage of hydrocephalus internus in which "the symptoms are those merely of ordinary fever." From the very commencement, we observe an affection of the head, essentially different from that necessarily produced by an increased force of circulation, the only one which attends the early stages of simple fever.

The foregoing observations being sufficient, as far as I can judge, to establish the point I had in view, that fever and phrenitis are diseases of a very different nature, a few observations on the remaining parts of the subject, the causes and treatment of these diseases, will be sufficient. Dr Clutterbuck contends for the similarity of their causes being argument in favour of his opinion.

nion. The extremes of heat and cold, fatigue, indigestible substances in the alimentary canal, &c. it is true, produce both fever and inflammation; but in the manner in which fever is propagated by contagion, and in the effects of great loss of blood, or of whatever prevents the formation of a due quantity, we see essential differences between the causes of fever and inflammation.

We have just seen that one of the chief differences between fever and phrenitis is, that in the former, the state of debility, which succeeds that of increased excitement, forms the most considerable, as well as the most formidable part of the disease; while idiopathic phrenitis, on the other hand, when the inflammatory stage is past, soon terminates in death or recovery. This circumstance points out an essential difference in the treatment of the two diseases. In phrenitis, we know, that if we can procure a resolution of the inflammation, our patient is safe; we therefore, have recourse to the most powerful anti-inflammatory measures. In the case of fever, our view is not so much to remove the inflammatory symptoms, which are the least dangerous part of the disease, but so to remove them, that those of the typhus, which succeeds, shall be as mild as possible. Would not much mischief ensue, were the former rule of practice applied to the treatment of fever, or the latter to that of phrenitis?

It would be easy to quote writers in opposition to those quoted by Dr Clutterbuck, in his defence of blood-letting in simple fever; but even in those he quotes, we may find evidence of the bad effects of the practice. He observes, that " Huxham quotes the practice of the French surgeons among the prisoners at Plymouth, who bled their patients every day as a matter of course, in those fevers." But let us see what Huxham says of the effects of this practice: " Too many instances of this" (that is, of the blood soon assuming a sanious appearance), he observes, " lately occurred to me among the French captives here, who died by dozens of a pestilential fever. In this fever, the French surgeons bled every day, and I several times saw the blood of some of the officers a mere sanious gore, on the third or fourth blood-letting." Huxham was led at length to see the impropriety of blood-letting in most cases of typhus; and he confesses, that, in those fevers which arise from contagion, it is generally followed by bad consequences.

In this part of England I have already had occasion to observe, that fevers have long been prevalent, and the bad effects of this practice have often been observed. In the few instances in which I have seen blood-letting employed, it seemed to do much mischief. The strength sunk rapidly, and the worst symptoms of typhus soon shewed themselves. I have conversed with many practitioners here, who have had much more frequent opportunities of seeing its effects. They have all declared it to be decidedly hurtful. The most favourable account has been, that the patient was saved with difficulty after blood-letting; but several have assured me, that all the cases in which they had seen it employed, although it had been confined to the commencement of the disease, terminated fatally. Now, indeed, the opinion against it is so general and decided, that we never have an opportunity of seeing its effects in these fevers, except where the patient has been under the care of a practitioner unaccustomed to treat the fevers which prevail here.

With regard to the observations of tropical practitioners, respecting this remedy, it is to be recollected, that most of the fevers, which fall under their care, are accompanied by local affections, generally of the inflammatory kind.

I cannot conclude my observations on Dr Clutterbuck's work, without observing, that although he seems convinced of the propriety of blood-letting, in simple fever, the caution with which he speaks of it, in the 279th page, does much credit to his candour, and affords an example deserving the imitation of those who recommend a favourite remedy.

While I am on the subject of fever, allow me to state, in a few words, the outlines of my own opinion, respecting its nature, which I have endeavoured to support, at some length, in an essay, above alluded to.

As the organs of the animal functions depend immediately for their vigour on the vital powers, it is evident, that all excitement of the former must tend to exhaust the latter. When, therefore, the excitement of the animal organs is excessive, the vital powers are necessarily debilitated *. Now, this debility, we find, is always indicated by the symptoms of fever, which seem, indeed, the unavoidable consequences of it; for, as the debility of the vital system, from whatever cause, is always felt most at the greatest distance from the heart, the secretions, which are performed by the extreme vessels, fail, occasioning shrinking and dryness of the skin, scanty urine, &c. The excrementitious matter is thus retained, and excites to preternatural action. The heart, and larger vessels, which restores the action of the extreme vessels, in the same way as the increased action of the larger vessels of

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* Excitement of the organs of the animal functions never produces a morbid debility, while the vital powers are unimpaired, because, under these circumstances, the vigour of the former is always restored by sleep; but, if the debility, in any degree, extend to the vital powers, a morbid state ensues, these powers being at all times equally vigorous in a healthy animal.

of an inflamed part restores the action of its capilliaries *, that is, by increasing the quantity of the natural stimulus, viz. of the fluids impelled into them by the *vis a tergo.* The retained excrementitious matter is thus thrown off, and the preternatural action of the heart and larger vessels subsides. But, if the debilitating power has been considerable, on the removal of the preternatural stimulus, (the retained excrementitious matter), the debility of the vital system recurs, and the same phenomena are renewed. Thus, when the fatigue of the animal organs has been excessive, a series of febrile paroxysms is the consequence. When we see other debilitating causes affecting the vital organs, and producing the same train of symptoms, is it not a fair inference, that they operate in the same way?

I have wished to give this concise statement of my opinion respecting the nature of fever, that it may not be misunderstood, as I have already found it to be; and that, if it is discussed, the attention may be directed to its leading features, and not to circumstances which tend to illustrate, but are not essential to it.

It has been stated, that it differs little, but in words, from Dr Cullen's opinion. Dr Cullen's opinion rests wholly on the supposed operations of the *vis medicatrix naturæ.* In that I propose, the effects, referred by him to that agent, are explained on the known laws of the animal œconomy. Dr Cullen attributes nothing to the excrementitious matter retained in consequence of the debility of the excreting organs, on which, if my opinion be just, a great part of the phenomena of fever depends.

Those who write on the nature of fever, labour under peculiar disadvantages. It seems, at present, to be the general opinion, that its phenomena cannot be explained; any attempt to explain them is, therefore, treated with neglect, and its author hardly escapes the imputation of presumption. Several years, wholly devoted to a painfully minute study of the various species of fever, will, at least, defend me from the accusation of precipitancy, or of attempting an investigation of the nature of this disease, without having previously acquired a knowledge of the long, and, in many instances, uninteresting train of facts, on which such an inquiry must be founded. My opinion is now before the public, who will judge whether I am deceived in regarding it as *a necessary inference from the phenomena of fever.*

Permit me, before closing this letter, to vindicate myself from an accusation of plagiarism, brought against me in the last number of the Edinburgh Medical and Surgical Journal. I not only never saw Dr Rush's work on the proximate cause of fever, and the work of Bichât, to which the critic alludes, but did not even know that such books existed. *Worcester*, 8*th Oct.* 1807.

III.

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* See the experiments, made with a view to ascertain the nature of inflammation, related in the third volume of my Treatise on Febrile Diseases.

III.

Case of Malconformation in the Genitals, with an Engraving. By Mr John Smith Soden, Member of the Royal College of Surgeons, London.

The organs of generation have always excited attention, apportionate to their importance in the animal economy. To the savage, the voluptuary and the philosopher, they form a subject of equal interest. When Omai was in Dr Hunter's museum, he was very inquisitive concerning the hymen; and, I believe, more polished, and better informed visitors, frequently manifest a similar curiosity.

In malformations of the genitals, the physiologist has found a theme for much ingenious speculation; and, though deviations from the ordinary arrangement of these parts do not often lead to practical improvement in the medical art, yet they tend to enlarge our knowledge of laws which govern the human system, and teach us to admire the wisdom employed by nature, in correcting those errors, or accidents, which may have impeded her usual course of operation. Considerable information has been accumulated in this Journal. Extraordinary cases are recorded by Mr Cooper, and Mr Coates; a very learned and entertaining essay has issued from the pen of Dr Duncan junior; and some valuable and judicious remarks are blended with the review of Professor Ackermann's work on hermaphrodites.

To add to the facts already collected, an instance that recently fell under my notice, is the intention of the present paper.

As the subject of the following case bears the name, and appears in the attire of a female, I shall speak of her in that character; though it will be evident, that she ought to be considered as belonging to the opposite sex

Sarah L—e, aged 24, a thin spare person, extremely awkward in her figure and gait, with masculine features, manly voice, and a strong beard; has flat breasts, and straight hips like a man, and hair upon her body and thighs.

A brief description of the annexed plate, will convey a clear idea of the peculiarities in the sexual organs. My friend, Dr Terry, an eminent physician in this place, and Mr Hodgson, an ingenious pupil of Mr Freer, surgeon, of Birmingham, were present at

Mr Soden's Case

Fig. 1.

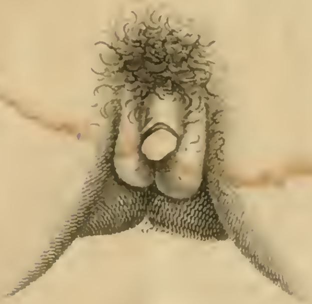
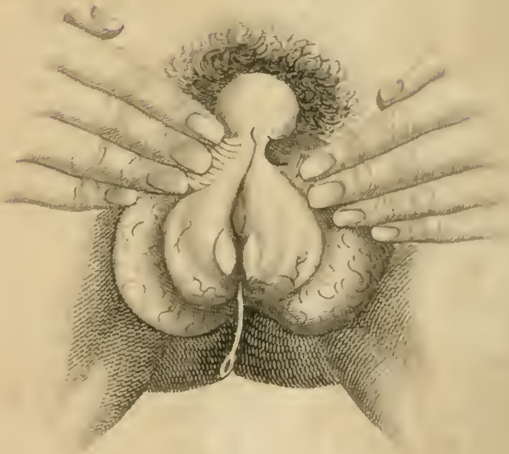


Fig. 2.



Edinburgh Medical & Surgical Journal Vol IV

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at the examination. The latter gentleman was so obliging as to take the drawings.

The first figure shews a clitoris, or imperforated penis, and scrotum containing testicles.

The penis is about two inches long, and a depression upon the glans marks the place where the urethra generally opens. The testes are somewhat less than common. The scrotum is divided, and bears a resemblance to labia.

In the second figure, the penis is lifted up as high as a strong and short frænum will permit, and the labia, or sides of the scrotum are separated.

Within the labia, are observed small protuberances, resembling nymphæ; and between them the meatus urinarius. A probe passed easily into the bladder, as is represented in the plate. The rapha perinæi is conspicuous, and commences at the termination of the frænum. The fossa navicularis is deeper than usual from the fourchette being more forward. Within the fossa, and concealed by the fourchette, that it cannot be seen in the plate, is a blind aperture, with a small excrescence at its entrance, something like a caruncula myrtiformis. This opening deserves not the name of vagina, though it occupies the situation. It admitted the end of the probe with difficulty, and would not receive more than half an inch of it. The excrescence was painful, and bled upon being touched by the probe.

This person, as will be supposed, has never menstruated, nor suffered inconvenience on that account. She is shy in conversing upon her sexual appetite, and disclaims all partiality for either sex. Her passions, probably, are not very strong; but, from intelligence gained from one of her female friends, I have no doubt that she sometimes evinces desire for a woman; though the frænum, I think, is too contracted to allow of complete erection.

She is attacked periodically with asthma; but her general health enables her to pursue the occupation of a servant, in which capacity she resides in this city.

Upon a superficial view of the genitals, it appears impossible, that she ever could have been considered as a girl; but, I suppose, at her birth the testes had not descended from the abdomen, the empty scrotum looked like tumefied labia, the imperforated penis resembled an enlarged clitoris, and the urine flowing from between the labia, no suspicion of ambiguous sex was entertained by her parents or friends.

The term hermaphrodite, which has frequently been applied to these cases, is not so generally used by medical writers as formerly. It is believed, that no real hermaphrodite, or a person possessing the organs, propensities, and powers of both sexes, ever existed. In the most complicated instances, some characteristic mark has been sufficiently predominant to enable the accurate observer to ascertain the gender, though the confusion and intermixture of the parts have caused nurses and others to commit curious mistakes. Ferrein, in a memoir on hermaphrodites,* relates two histories of peculiar organization in females, in which the persons were baptised and educated as boys.

Dr Duncan attributes that arrangement which takes place where there is a deficiency of the urinary bladder, to an impervious urethra. This hypothesis is simple, and ingenious, and affords a solution of some of the phenomena in the lusus which I have described. It will be readily supposed, that an impervious urethra would be succeeded by an orifice in the perineum; but, there is no immediate connection between this circumstance, and the striking resemblance of the scrotum to labia, the imitation of nymphæ, and the aperture in the situation of the vagina.

The inconveniencies arising from these observations of nature, unfortunately cannot be remedied by medical skill. Where the urethra was continued to the glans, every attempt to heal the deficiency in perinæo was ineffectual under the direction of the late Mr John Hunter. Mr Hunter, indeed, proves, that an imperfect penis is not incompatible with procreation; but, the impregnation was effected in a manner so singular, that the experiment is not likely to be often repeated.

As the fact is curious, I shall conclude this communication with Mr Home's account of it.

" In a case in which the canal was continued to the external orifice at the glans penis, the deficiency of the urethra behind the scrotum was so great, that every attempt to close the aperture necessarily left in perinæo proved ineffectual, and under these circumstances the person married. When he had connexion, the emission was complete, which proved that the testicles were perfect; but the semen always passed out at the perineum.

" The late Mr Hunter was consulted, to remedy, if possible, this inconvenience, and enable the person to beget children. After the failure of several modes of treatment which were adopted, Mr Hunter suggested the following experiment: He advised that the husband should be prepared with a syringe fitted for the purpose, previously warmed; and that immediately after the emission had taken place, it should be taken up by the syringe, and injected into the vagina, while the female organs were still under the influence of the coitus, and in the proper state for receiving the semen."

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* Memoires de l'Academie Royale des Sciences de Paris, Année 1767.

This experiment was actually made, and the wife proved with child. Upon a subject of this kind, it is proper to speak with caution; but, from all the attending circumstances, no doubt was entertained by Mr Hunter, or the husband, that the impregnation was entirely the effect of the experiment *.

Coventry, *Aug.* 1*st*, 1807.

IV.

History of a Case of Diabetes Mellitus, successfully treated by Animal Diet, and the use of the Cinchona, with Remarks. By GEORGE ALLEY, M. D.

THE medical practitioner cannot be said to have entirely performed his duty by treating successfully a disease which withstands in general the efforts of others, unless he also makes known the means to which such success may be attributed. Was this idea more strongly impressed, than it appears to be on the minds of professional men, the page of medical history could not fail of having been enriched even beyond its present state. Many a valuable fact, I am persuaded, has gone down with its possessor to the grave, which, if communicated to the world, would at once have benefited the community, and rescued from oblivion the name of its observer. Nor is the communication of successful practice alone attended with advantage. The correct and impartial detail of those cases, which baffle our exertions, has also its utility; for from the failure of the remedies employed, we receive a lesson which should be carefully remembered. We are taught thereby fairly to appreciate the value of the means recommended, and, from a perception of the insufficiency of our knowledge, are led to the extension of our inquiries.

Induced by a belief that the history of the following case may be attended with beneficial consequences, I take the liberty to request its insertion, with remarks, in your valuable Journal.

JOHN CRONIN, a countryman employed in the Ordnance Department at Spike Island, Cork harbour, applied to me for relief of what he considered mere debility, on the 14th November 1806.

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* Philosophical Transactions, 1799.

He was greatly emaciated, had a constant hectic flush, and his under eyelids were red and inflamed; his skin was dry and scurfy; he had continual and excessive thirst, and a ravenous craving for food. The pulse was 90 in the minute, and was somewhat hurried; his breathing, however, did not appear affected. His belly was natural, but the secretion of urine, which was the only circumstance he omitted in his account of his complaint, I discovered to be very considerable. On the 16th he was admitted into the Ordnance Hospital at Spike Island; on that day he made 16 pints, by measurement, of a clear and almost colourless water, without odour, and perfectly sweet to the taste. On examination into the previous history of the disease, I learned, that he had always been very temperate, and extremely healthy, till about thirteen months before this period, when, after being much heated, he drank cold water, and lay a short time on the grass. This imprudence was very soon followed by a copious discharge of urine, by no means, however, so great as at the time he made application to me for relief The increase of the urinary discharge was succeeded by the other symptoms before enumerated, which by degrees arrived at the height already described. One circumstance particularly deserving of notice, was the tendency which milk at all times had to augment the flow of urine. He was ordered to be confined to a strict animal diet, consisting of one pound of boiled beef without bone and two quarts of strong soup, without any vegetable ingredient in the course of the day; he was also ordered to take a drachm of the pulv. cinchon. three times a-day, each dose to be taken about an hour before he made use of solid food.

On the 17th, the urine, though diminished little more than a pint, was somewhat less sweet to the taste, and emitted a more heavy odour, a circumstance which gave me some little hope of success. The bark was continued; and as he complained of great thirst, and a very painful gnawing sensation of the stomach, whenever it was empty, his allowance of meat was doubled, and another quart of broth was added to his drink.

On the 18th, the urine was surprisingly diminished, hardly exceeding seven pints. It had assumed, besides, a much deeper colour; and, both in smell and taste, differed little from the natural state. His thirst was considerably diminished, but his appetite still continued voracious. Ordered to go on as before.

On the 19th, he made but five pints of urine, which bore all the characteristic marks of a natural secretion; the thirst was nearly gone; the appetite, though less, was still considerable. He was directed to proceed.

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On the 20th, his urine did not exceed four pints; the appetite was much diminished, and the thirst entirely gone. As he wished to go home to his family, who resided a few miles distant, and as no provision is made by the Board of Ordnance, excepting for those actually hurt upon their works, (and even their patients of the civil branch cannot be detained against their consent), he was dismissed from hospital. Before his departure, I explained to him very particularly the nature of the disease from which he had so fair a prospect of being perfectly relieved by a steady perseverance in the plan I had adopted. I also pointed out to him the certain fatality of the complaint unless treated after this manner; and expressed my decided opinion, that his disorder would return should he deviate, in the smallest degree, from my instructions. He seemed perfectly aware of his own danger; and, in order to enable him to follow my advice, I gave him a letter to a friend of mine, on whose esate he resided, who kindly and humanely supplied him with the necessary food, and who, being interested by the peculiarity of the case and method of treatment, in a great measure, inspected the matter himself. My patient called upon me once a-week for bark, and at the end of the sixth week, (December 25th), he was allowed half a pound of bread at dinner. From that day he continued to use vegetable food without restraint, and has experienced no return of the disease. He has since regained his strength, and his former healthy appearance.

REMARKS.

The success of this case must be attributed entirely to the use of the animal diet, as bark, when given without prohibition from vegetable food, has but little effect in the cure of this truly formidable disease. The cinchona was prescribed with a view to its invigorating principle, which enables the chylopoetic viscera to perform their functions This I think it necessary to mention, lest it should be supposed to be my wish to recommend the use of that medicine with any other view, but as an auxiliary to the only plan which has yet been generally adopted with success. As an auxiliary, I must, however, consider it preferable to any other, for the reason already assigned. At the same time, I will not deny that other remedies may also have their uses in the same way.

The use of septics, which Dr Rollo strongly recommends, in his valuable publication on this subject, was first tried by Dr Francis Home, in two cases, which occurred at the Royal Infirmary of Edinburgh *. Dr H. was induced, he says, to try the use of

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* Home's Clinical Experiments, Histories, and Dissections, p. 325.

of septics, in order to promote the animal process, as the urine appeared too little animalized; " and," he observes, " it is the first time that I, or perhaps any other, ever pursued that idea." It is indeed not a little singular, that Dr H. did not follow up this idea, or that of reducing the quantity of urine by incrassants. By the latter plan, the urine of one of his patients was diminished from 12 to nine pints in the 24 hours; and it should be remarked, that this patient got 30 oysters in the course of the day. This, however, was reserved for the sagacity of the learned Dr Rollo, to whom, whatever may be the theory entertained by that enlightened physician, the medical world is certainly indebted for the suggestion of the plan of animal diet alone, and which cannot fail of transmitting his name with honour to posterity.

The rapid change in the state of the urinary discharge from the use of animal food, is a circumstance, which, though noticed by Dr R., must excite considerable surprise. It was one, which, whatever hopes I might have entertained from a steady perseverance in the method of treatment adopted, I was by no means prepared to expect. Our astonishment, however, must, no doubt, suffer some diminution, from a consideration of Dr R.'s experiments, which very clearly demonstrate, that the urinary, or rather saccharine, secretion in diabetes, depends on the imperfect animalization of the blood, and that such imperfect animalization is the consequence of defective assimilation of the aliment. This is very clearly deducible from those experiments, though Dr R., as I apprehend, considers the saccharine secretion as formed in the stomach. No dissection, as far as I know, has yet discovered the presence of a saccharine matter in the stomach; nor is it easy to conceive, that, if that viscus did secrete that matter, it could pass from the stomach unchanged to the bladder, unless we also acknowledge the existence of the *vasa brevia*, a position denied by the most celebrated anatomists. Dr R. mentions, (in the case of Captain Meredith), that the patient was bled, and the blood was kept for several months, without undergoing any putrefactive process; while a portion of healthy blood, taken at the same time, and placed in the same room, exhibited evident marks of great putrefaction in four days, and was obliged to be thrown away on the seventh *. This circumstance leads me to adopt, in preference, the theory of the saccharine secretion being performed by the kidneys, and which is well expressed

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* See cases of Diabetes Mellitus, with the results of the trials of certain acid and other substances in the cure of Lues Venerea. By John Rollo, M. D. Surgeon-General, Royal Artillery, 2d edition.

sed by Dr Baillie. " From the state of the kidneys," says this celebrated morbid anatomist, " upon examination, it seemed to me probable, that diabetes depends, in a considerable degree, upon a deranged action of the secretory structure of the kidneys, by which the blood there is disposed to new combinations. The effect of these combinations is the production of a saccharine matter. I think it probable, at the same time, that the chyle may be so imperfectly formed, as to make the blood be more readily changed into a saccharine substance by the action of the kidneys *."

The cause of the imperfect animalization of the blood will necessarily appear to be imperfect digestion, or defective assimilation of the aliment. This by some has been supposed to depend on disease, either in the structure or functions of the liver. This was the opinion of Actuarius among the ancient, and of Mead amongst the modern medical writers; but later observations have not confirmed this idea. Dr Home examined very carefully one of the cases before mentioned, which terminated fatally, and reports the liver " natural." Dr Baillie's history of the dissection of a case, which occurred to him, at St George's Hospital, London, is very satisfactory: He remarks, " the liver, at the same time, I examined with care, because it has been thought by some to be the chief source of disease in diabetic patients; but it was perfectly sound. Even allowing the liver to be sometimes engaged, it is a circumstance which, as Cullen observes, does not often take place, and therefore the disease must acknowledge a different cause. The mesentric and pancreatic glands have likewise been said, in some instances, to have been enlarged and diseased; and the latter, especially, have been found, in two cases, to have been much altered in their structure, by an eminent profesional friend of mine, in Cork, whose name I am not at liberty to mention; but this is only casual, and cannot be set down as the general cause of diabetes; yet one idea strikes me, from a consideration of the histories of the chylopoetic viscera being sometimes found diseased in this complaint, and which I submit with much diffidence: It is, that where diabetes resists the plan of animal diet, it may be fair to conclude, that diseased structure may be the cause, and thence, that a mercurial course might be, at the same time, attended with advantage. The utility of this plan will perhaps be more apparent from a consideration of the declaration of the very accurate and learned Dr Willan, in his reports on the diseases in London, " that this disease

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* Baillie's Morbid Anatomy, p. 276. 2d edition.

disease has been relieved, and the saccharine quality of the urine removed by animal diet, and the general plan recommended in Dr Rollo's treatise on this subject; but I never yet," he continues, "met with a confirmed case, wherein there was not some considerable disorder of the constitution, or a defect in some organ essential to life *."

I do not see that any advantage is to be expected from local applications to the region of the kidneys: That the affection of those organs is but secondary, or, in other words, is dependant on the defective assimilation of the aliment, and the consequent imperfect animalization of the blood, will hardly be denied; and the admission of this fact is necessarily followed by that of another, that the cure does not lie in any medicine or application, acting directly on the urinary organs, but in altering and correcting depraved digestion. This is most effectually done by the administration of those remedies which impart tone to the organs concerned, and by affording that kind of aliment *only*, whose direct tendency is to promote the animal process.

I shall conclude this communication, by adverting to the place which this disease should have in systems of nosology. Dr Cullen has placed it under the order of *spasmi*. This improper arrangement has been wisely accounted for by Dr Willan, when he says, "most of the plans of nosology are exceptionable, as being founded on hypothetical principles, rather than a strict analogy between the diseases put in the same order †." If we attentively consider the circumstances attendant on diabetes, the emaciation, debility, œdematous swellings of the legs and feet, and, in some cases, (particularly towards the close of the disease), the quick pulse, and hectic flush, we shall be inclined to take the disease from the order in which Cullen has placed it, and rank it under the class of *cahexiæ*, and amongst the *marcores*. The *tabes sudatoria* resembles much, in its nature, diabetes; the former is attended with a diseased state of the primæ viæ, and cutaneous vessels, the latter with a diseased state of the primæ viæ and kidneys: In the former, the skin is evidently relaxed, and the histories of the dissection of diabetic patients shew a similar laxity and softness of the kidneys. The perspiratory discharge in the former, when collected on a sponge, speedily acquires a sour odour; the urine in diabetes soon undergoes the same change. To these may be added, that in the *tabes sudatoria* the urine is very scanty, while in diabetes the perspiratory discharge is, in a great measure, suppressed;

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* P. 186.

† See Preface to Reports on Diseases in London, p. 111.

suppressed. The other symptoms are nearly the same; emaciation, debility, and hectic, equally mark both diseases. The analogy then, which subsists between diabetes and diseases usually ranked under the head of cachexiæ, would, as before mentioned, strongly incline me to place it in that order.

Cove, Cork.

V.

Case of extensive Injury done to the Canal of the Urethra. By KINDER WOOD, Member of the Royal College of Surgeons, London.

THOMAS MILLS, a collier, æt. 60, February 25th, whilst in the pit, fell backwards, and the perineum came in contact with the corner of a tub. I saw him in a short time after the accident; the scrotum was swelled, of a deep blue colour, as if filled with extravasated blood, and very painful; the pulse was very quick, feeble, and easily compressible; the whole surface of the body was cold, and the rigors very severe. In such a state, afraid to take away blood generally, six leeches were applied to the scrotum, as the pain was very violent; a spirituous lotion was applied, and he was desired to take freely of warm gruel, and to be kept warm. In the afternoon, the scrotum had enlarged so much, as to thrust the testicles violently against the abdominal ring, producing excruciating pain; a little blood had passed by the urethra, but not a drop of urine. There was a great sense of distension of the bladder, for which, with great care the catheter was introduced, and about ℥ij. of bloody urine brought away with great relief; the rigors were less violent. As the urethra appeared clearly to be ruptured, and the scrotum distended with blood and urine, a large and deep incision was made in the scrotum and perineum, from which issued slowly a bloody urinous fluid. An anodyne fomentation was applied to the parts with great relief, and 1 gr. of opium administered. The sensation of distension of the bladder became again very severe during night, and, at the earnest request of the patient, the catheter was with great care introduced, but only a trifling quantity of bloody urine was brought away; during the night he became delirious.

26th.—The region of the bladder is very sore, and there are violent and painful contractions of the bladder, whenever the least quantity of water is collected; the tumour of the scrotum is less, and the urine oozes freely through the opening. Fever slight, bowels costive. Three more leeches were applied to the hypogastric region, a draught with ol. ricini exhibited, and a clyster of milk; he was ordered every three hours to take a saline mixture, with antimony.

27th.—A. M. very feverish; scrotum rather larger, harder, and sore. Continue the mixture and fomentation. P. M. rather better, skin moist; soreness of the abdomen, and irritable action of the bladder diminished; pulse more free, and has had two stools.

28th.—Pulse soft and regular, thirst slight, bowels open, fever abated, scrotum rather less.

March 1st.—Fever rather increased, pulse hard, constant heavy pain in the scrotum; irritable state of the bladder quite gone. Continue the mixture and fomentation, and at bedtime take an anodyne draught.

2d.—Pulse sharp and frequent, tongue covered with a brown fur; has passed two or three loose stools; the lower part of the scrotum is in a gangrenous state; the testicles enlarged and sore. Was ordered wine freely, and given the decoction of bark with the tincture, and an opiate at bedtime.

3d.—Laid open a small abscess in the perineum, and made an incision into the mortified slough, which is surrounded with an inflamed line; the pain is very violent when the urine passes through the opening. He was ordered the bark in substance.

4th.—Has had a violent diarrhœa; pulse quick and soft, tongue brown, and slight confusion in the head. The decoction was again resorted to, and xv. gr. of kino given every two hours. In the evening, the diarrhœa was less violent.

5th.—Every thing going on well, and the slough separating; on the 9th it had come away, leaving a clean wound; the extent of the sloughing could now be seen; the bulb and membranous part of the urethra, with a considerable portion of the left tunica vaginalis had come entirely away, exposing the anterior portion of the prostate gland, the crura of the penis, and a considerable part of the left testicle, covered with its tunica albuginea. A bougie could be easily passed into the bladder, through the remains of the urethra, which projected about $\frac{1}{8}$th of an inch from the prostate, florid and protuberant, as if formed by new granulations.

13th.—The pain is so violent when the urine is passed, that a female catheter was introduced; the appetite is better, and he sits up a little in bed.

15th.—An elastic catheter was introduced, but was obliged to be withdrawn. Since the female catheter was used, the granulations, which seemed to have been repressed by the urine passing over them, have risen up vigorously.

22d.—The elastic catheter was again introduced, and remained six hours, when it became uneasy; sits up, and stands very well.

23d.—The elastic catheter was again introduced, and suffered to remain; and from this time the granulations pushed rapidly around it.

April 1st.—The granulations appearing flabby, and the matter becoming thin, the wound was daily sprinkled with the pulv. rhei, when they quickly became of an healthy appearance.

9th.—The catheter has been retained till this day, by a slip of adhesive plaster passed round the penis, including a thread fastened to the head of the catheter; in the night the patient pulled it away, and in attempting to pass it again pushed it through the fresh granulations in the perineum; I again introduced it, but with great difficulty.

13th.—The urine comes in a small stream through the catheter, and, occasionally, a good deal through the wound; on the 18th, the catheter was, from necessity, withdrawn.

29th.—A fresh elastic catheter was introduced, and remained for five weeks, when it became clogged up with mucus, and its internal surface so injured by the passage of the urine, that the silver wire could not be passed down when it was withdrawn; at this time the opening would not admit the head of a common silver probe with ease. A bougie was passed down beyond the opening, and the part freely scarified and stimulated with the red precipitate. When the patient applied his finger to the opening in the perineum, the largest portion of the urine passed by the natural passage, and only the last portions through the opening. It gradually contracted till July 4th, when it was completely healed, and the consequences became very troublesome. The urine was not expelled through the urethra; he had a sensation as if the urine passed down to the perineum, where the opening had been; then came on violent pain in the belly, rigors, and difficulty of breathing; and these continued for nearly three hours, when the urine again passed by drops through the perineum: it then came in a small stream, and the opening being now much enlarged, the bladder was evacuated, and the symptoms went off; a full sized bougie could be passed beyond the opening in the perineum, but not into the bladder. Affections of this nature had come on as the opening became less, but they did not become severe till it was entirely closed; since that time, the opening has once again become very small, and the urine passed through it with difficulty it was attended with the same symptoms, but less in degree, as the opening did not entirely close.

When the bladder is distended with urine, the greatest part passes through the canal of the urethra, whilst, on the contrary, when little urine is contained, it passes chiefly through the opening in the perineum. The bladder is very irritable, and when the inclination to void the urine comes on, it is expelled, though against the patient's inclination, whilst, at other times, the urine passes with great difficulty; and, when this is the case, it is most effectually relieved by a large opiate, with the sp. æth. vitr. Whether these affections have been produced by the catheter lying so long in the bladder, or are the effects of the injury, I will not take upon me to determine. The first catheter remained in the bladder for eighteen days, when it was withdrawn by the patient; it was immediately introduced, and remained nine days longer: the second catheter remained for the space of five weeks, without any symptom coming on, indicating a necessity for its removal; when withdrawn, both catheters were broke, where they had lain under the arch of the pubis, the latter, particularly, was acted upon by the urine, and rendered very brittle; its whole surface was full of fissures, and its elasticity in a great measure destroyed.

When a large portion of the canal of the urethra has sloughed away, the case becomes materially different from those where an opening only is made into it. When the urethra bursts behind a stricture, the case frequently heals with ease when the stricture is destroyed; and when we are under the necessity of cutting into the urethra for the dislodgement of stones which have stopt in the canal, we find it heal very readily, unless we cut into the bulb: hence it is, that systematic writers recommend us to push the stone backwards or forwards, when it lies in this situation, before we make our incision for its extraction. The difficulty of healing the wound, in this situation, seems rather to be produced by the injury done to the accelerator urinæ muscle, than to the insinuation of the urine into the cellular membrane of the scrotum, and would appear to justify lithotomists in their fear of wounding the bulb in the operation for the stone.

The difficulty of healing the fistula in perinæo is generally owing to the presence of stricture, or of a callous state of the surrounding parts; in the latter case practitioners are led to very painful, and very uncertain operations for the cure of the fistula: there are some which baffle the efforts of our best surgeons. It is to the loss of the accelerator muscle that I attribute the reopening of the fistula in the above case. When the action of this muscle is lost, and more particularly if the fibres of the detrusor are debilitated,

bilitated, the urine is not passed along the whole length of the canal of the urethra, and thus is the fistula kept open in the perineum, or, if it has closed, does there exist a necessity for its being reopened? It is to the accumulation of the urine in an irritable bladder, that the violent pain, difficulty of breathing, &c. are to be ascribed in the present case, and this accumulation appears to have been produced as above.

Mr Charles Bell, in his System of Operative Surgery, has spoken very lightly of cutting out a portion of the urethra, and the formation of a new canal; but if there is any foundation for the above remarks, it would appear to be an operation from which very little may be expected, since cutting away the bulb of the urethra seems to be no object with him; he speaks as coolly of dissecting the parts freely, and making distinct the bulb, as if the business was a mere demonstration upon the dead subject. The depth at which the bulb lies, and the bleeding from the branches of the common pudendal artery, render, in my opinion, making the parts distinct an utter impossibility upon the operating table.

The effects of the pulv. rhei, as recommended by Mr Home in the Transactions of a Society, &c. were very quick in changing the aspect of the granulations to an healthy appearance, whilst, on the contrary, the effects of the urine in checking their growth, were as remarkable.

Oldham, Nov. 5th 1807.

VI.

A Case of Tetanus successfully treated with the Cold Affusion. By D. Arnoldi.

Mr Julien Perrault, ætat. 32, of a healthy and robust constitution, was seized with a slight stiffness about the neck, on Monday the 7th July 1806, which did not greatly incommode him for a day or two, when he perceived some degree of rigidity in the muscles of the jaw, and a sense of soreness in the throat, for the relief of which, he applied to me on the Thursday following.

Considering his complaints to arise from a cold, advised bathing his feet in warm water, and a paregoric at bedtime, which relieved the symptoms while he was warm in bed; but he got up in the night, which was very sultry, and sat outside of his door a considerable time, which evidently increased the rigidity of the muscles of the jaw. Saturday night, the bath and opiate were repeated, and an infusion of senna and salts exhibited very early on the Sunday morning, which operated plentifully.

About nine o'clock (Sunday), finding all the symptoms aggravated, and the trismus more distinct, the powers of deglutition considerably impeded, I inquired more particularly into the patient's previous health, which, however, could not afford me the least indication of the cause of this disturbance, as he had enjoyed a very good state of it long before, nor was it till after very minute inquiry, that he recollected having wounded his little toe in cutting a corn, that was situated on the extensor tendon; it had never inflamed, but by attentive observation, a distinct point of blood could be perceived through the transparent induration, although it was upwards of three weeks that he had cut it. Alarmed at these appearances, I advised his friends to call in further assistance. They accordingly called in Mr Blake, who saw him this same day (Sunday) about two o'clock; the rigidity of the neck and jaw were increased, and the spasms frequently affected the whole of the muscles of the back and breast; the jaw was locked to such a degree, that it would not admit the handle of a spoon between the teeth, and the muscles of the face were likewise strongly affected. After having consulted upon the case, it was agreed to try the cold affusion, which was immediately done. Previous steps having been taken for it, six buckets full of cold well water were poured on his head, while in a tub, which had been brought into the house, but finding the operation so severe, he would not bear any more, but got out of the tub, and was put to bed in warm flannels, and a tumbler of warm wine and water administered, with forty drops of laudanum He was scarcely warm in bed, before the spasm on the jaw evidently relaxed, and he could open them sufficiently wide to admit the little finger. We left him considerably easier about three o'clock, and called again the same evening, accompanied by Mr Loedel, about seven. It was determined to repeat the affusion, to which the patient consented, with the greatest reluctance; the very idea of it aggravated the spasms: however, we got him into the tub again, but he would not endure more than three or four buckets full, and made his escape. He was again wrapped in warm flannels, the warm wine and water, with 50 drops of laudanum, administered; but the beneficial effects of the affusion were not so evident as before.

The patient peremptorily declined to submit to it any more. Monday the 14th, we met all three about nine o'clock, the symtoms were all aggravated, and the spasms were very severe about the scrobiculus cordis, the rigidity extending down the extremities. We would have persisted in the affusion, but were absolutely opposed; we then determined to try the effects of mercury, and immediately had half an ounce of the strong mercurial ointment well rubbed into the thighs, and his arms and legs embrocated with a mixture of equal parts of laudanum and tincture of cantharidis, and the laudanum exhibited to the extent of 60 drops three or four times a-day, with a bolus of ten grains of calomel at bedtime. We met again at seven o'clock, P. M. and found him much worse. The frictions and opiate were continued in more liberal doses.—Tuesday, we found him still worse; the spasms were more frequent, and so violent at the pit of the stomach, that it almost prevented his breathing; the muscles of the back were more contracted, and he exhibited the true ophisthotonus to such a degree, that, when he lay on his back, a pillow might with ease be put under his loins. The muscles of the abdomen were very tense; his thighs and legs were as hard as a board. The frictions and opiates were continued very liberally, and ten grains of calomel given at bedtime.—Wednesday, we found all the symptoms aggravated; the spasms on the scrobiculus cordis, exceedingly severe and long; the muscles of the neck horribly contracted, and a facies hypocratica rendered him a terrible figure indeed. The mercury evidently affected his mouth, as there was a swelling of the gums and inside of the cheeks; he was scarcely able to swallow his spittle, and all this time he subsisted by sucking broths miserably through his teeth. As he still continued obstinately to oppose the affusion, his friends, warned of the danger, had called in his spiritual director, an old friar, who, with the assurance so common to presumptuous ignorance, said he would cure him in very little time, which they readily believed, as he passes for a dabster in medicine; and, accordingly, he set about stewing some hemlock tree branches, Wednesday evening, with which he meant to sweat him by covering him with the reeking branches. He actually submitted to the treatment, but the spasms increased to such an alarming degree, that they drew him out of the bath with great precipitation, and he passed the rest of the night very miserably, although he had still continued the tinc. theb. of which he had in all taken, at this time, about two ounces, besides what was rubbed on his limbs. Our attendance was rather intrusive; but, being anxious about the event, we continued regularly to attend twice a-day, since the last affusion, and the frictions were only submitted to through mere complaisance, as the friar was all this time carrying on his plans.

However, as he was costive, two ounces of castor oil were ordered at bedtime, which operated three times very well, and brought off a worm of the lumbricus kind.

Not finding the expected relief from the old friar, and perceiving his danger, of which he could not be convinced before now, although exposed to him without the least reserve, and that the disease was making rapid strides, besides the pains and distress he was in, he at last begged to have the cold water poured on him again.

We had assiduously avoided speaking of it these few days past, for fear of aggravating the spasms, as he was seized with horror when any mention was made of the cold water, which gave rise to the risus sardonicus to a dreadful degree, and the pain at the scrobiculus, that was so sore to him; the effects of the mercury were very evident, and a slight salivation induced.

Thursday evening, having prepared a large tub out of doors, with a chair secured in it, he was placed in it, as stiff as a board, every muscle in his whole frame in a violent state of contraction, and his head and heels forming a considerable arch. Upwards of twenty-six buckets of water were poured directly on his head, so as to run down before and behind, when we perceived his pulse to flag, and he sunk down on the chair; we immediately desisted; the deliquium produced a solution of the spasms, as his limbs became flexible, and the jaw dropped.

We were apprehensive of having carried it too far; but we had the consolation, in a few minutes, to find the reaction commence, by the help of the warm flannels and wine. The jaws were so much relaxed, that they could separate almost to their full extent. We ordered him his laudanum (70 drops), and left him highly satisfied with the effects of the affusion.

Friday, we found him in high spirits, as there was an evident abatement of the spasms, although the trismus had returned, but the spine was not so much bent, and the pain at the scrobiculus cordis not nigh so frequent or so distressing. He passed but a restless night, as he was disturbed by a diarrhœa, that wrought him fifteen or sixteen times; the salivations had not increased, and the frictions had been discontinued since Wednesday, but the opiates were given to their usual extent, four or five times a-day. In the evening, we put him in the tub again, and poured on twenty buckets of water, when his pulse lowered, and his knees bent, so that he sat down on the chair; we immediately got him out, and put him in the warm flannels, as usual, gave him the wine as before, and found the jaw quite relaxed. He was sooner recovered from his fainting than last evening, and could swallow better; we left him, with directions to take the laudanum, as the pain at the stomach might require, which was but seldom; so that the quantity and frequency of its exhibition was gradually diminished to thirty drops twice-a-day, and at last discontinued.

Saturday, we found him in every respect better, as he had made shift to take some food, but complained sorely of his tongue and teeth; he had slept pretty well for the first time since the Saturday before. The spasms being much diminished, we thought that the affusion might be dispensed with, as it was a measure that carried with it such an air of severity; we advised him to drink plentifully of good Madeira wine, and take as much nourishment as he could.

Sunday morning, we found him quite merry, having drank two bottles of wine, and slept tolerably well, except when the attendants plied him with wine. He began to walk about with a little support, but he yet cut a ludicrous figure. No medicines were ordered, and the wine was continued.

Monday, the appearances were yet more favourable, and he could make a better use of his limbs; his jaw was relaxed sufficiently to eat a little bread and biscuit, but his tongue was sore yet; his features were gradually assuming their wonted appearance. He had drank two bottles of wine since the last report, and staggered about rather better than yesterday Finding matters go on so favourably, we recommended the same plan, which he continued with little variation for twelve or fourteen days, when there was no rigidity of consequence remaining, and he gradually returned to health, lessening the quantity of wine by degrees.

I have stated the above case merely as a succession of facts, which you are at full liberty to make what use of you please, and have forbore making any comment of the treatment; but I am strongly inclined to think, that the benefit to be expected from the cold affusion will be very little, unless it is carried to the length of producing a suspension of the vital principle, as the spasms were very markedly dissolved on the deliquium taking place, and their recurrence with the reaction, with an evident abatement. He had taken, in the course of ten days, besides the frictions, nearly three ounces of the thebaic tincture, without inducing the least stupor; nor did we perceive any bad effects from the cold, although very much under the influence of mercury. There was nothing in the discharges by stool that might indicate any irritation in the alimentary canal, either as to quantity or quality, as his evacuations were natural, excepting the solitary lumbricus, which could hardly be suspected of having created so much disturbance. The wound on the toe never exhibited any appearance of inflammation, nor could we perceive that it gave

him

him any unusual pain on pressing strongly on it. His pulse was not disturbed during the whole course of the disease, except from the effects of the affusion.

At this date, which is upwards of a year since his illness, he has enjoyed an uninterrupted state of health, has got fat, and was married eight months ago.

While drawing out this sketch, he informs me that he recollects having had a diarrhœa which lasted a day, a few weeks before his illness; in his stools, he noticed several small worms, but never observed them before or since.

It may be worthy of remark, that the weather was very sultry during the latter part of June, and all July; and there was very little variation in the thermometer, night or day.

Montreal, August 12*th*, 1807.

VII.

A Case of the Cancer of the Penis, extirpated with success. By Mr THOMAS MACHELL, Surgeon, Wolsingham, Durham.

IN 1806, Mr Thomas Foster, 65 years of age, of emaciated constitution and slender make, requested my assistance in a disease of the penis. On my first visit, I found a large irregular excrescence, extending from three quarters of an inch of the pubes to near the extremity of the yard; its resemblance was that of a full blown red rose; a small part of the prepuce, at its extremity, remained entire, and was firmly contracted over the glans penis, forming a complete phymosis The anterior part of the urethra was wholy obliterated, and the urine passed with excruciating pain through four apertures at the sides and centre of the ulcer. I afterwards found the fungus had originated in the glans penis, and measured one inch and a quarter from base to apex. This blended mass of cancerous flesh, in its growth, caused a separation of the prepuce anteriorly, the edge of which was much ulcerated and thickened, forming a sort of margin, which circumscribed a third of the circumference of the fungus. The surface assumed the same irregular granulated appearance as the rest of the sore; the prepuce could be separated from the other part of the fungus by forcibly pressing with the fingers; both edges were smooth, and of a duskish colour, which was owing to a fetid ichor constantly exuding from the surface of the sore : this foulness, together with the urine, made his linen continually moist, which perpetually gave out an intolerable fetor.

From his history of the case, it appears he was never able to denude the glans. About eight years ago, he first began to feel a little uneasiness on discharging his water, which, after the space of two years, came away with great difficulty. This he attempted to remedy by introducing the head of a common pin. Not long after he observed an ulcer, the size of a small pea, near the end of his yard ; this, in the space of five years more, had increased to such a bulk, that it was with difficulty he could walk. The pain he felt on voiding his urine, and which continued a long time after, was beyond description. Notwithstanding every distressing circumstance he laboured under, he firmly refused to comply with an operation which at that time I thought myself justifiable in proposing. About two months after, I was desired to attend again, and found him considerably shrunk. He complained of night sweats, great prostration of strength, with other symptoms of extreme debility. The rapidity with which the disease now advanced was become, to himself, evidently dangerous ; for that part of the integuments of the penis, between the fungus and pubis, had turned livid, and was perforated in three places, since the time when I last saw it, and endeavoured to enforce on him the necessity of an operation, which he then firmly refused. Being now made sensible of the event if the disease was suffered to go further, he consented to the operation. That part of the penis which is covered by the scrotum felt hard and knotty, so that I found it impossible, in extirpation, to get beyond the diseased part without taking away much of the scrotum ;—this I hesitated to do, as no case had occurred to me of so formidable a nature. Thus circumstanced, I solicited the assistance of a neighbouring practitioner, who readily agreed in the propriety of extirpation ; but in what manner to proceed with safety to the patient, as well as a due regard to our own reputations, was difficult to determine. Here was combined inveterate disease and impaired old age, fast approaching to natural decay. At this crisis, however unfavourable, he urged, and we determined on extirpation. Having cut through the common integuments of the penis and scrotum, on examining, I found the disease to extend as far as the pubes, and I next detached the whole diseased penis ; the hemorrhage was very profuse, there being no possibility of applying a tourniquet. I ordered my assistant to keep a firm pressure with his finger and thumb behind the bulb of the urethra, by which means he was able to bring the remaining part of the penis into view, which, after extirpation, had shrunk considerably within the perineum; he was also enabled, in a great degree, to moderate the hemorrhage until I secured the vessels. I took up an artery in each corpus cavernosum, and one in the dorsum penis, but still finding a running from the smaller arteries, I tied six of these, then brought together the lips of the divided scrotum by the common suture, when, waiting the result of a few minutes before I proceeded further, to my surprise two small vessels began to bleed, which I immediately secured, and again desisted a sufficient time to prove the safety of the part. Having applied the dressings, through which I introduced a silver canula, for the purpose of conducting the urine over them, I suspended the scrotum in a bag-truss. He was put to bed, and, considering his feeble state, felt tolerably easy. I administered an opiate and left him. On the morning after, he complained of the most distressing pain in discharging his water. On examining, I found that the urine had penetrated the dressings at the orifice of the urethra, and, remaining in the scrotum, it excited the most grievous degree of pain. The very lax state of the scrotum, the urethra retracting so considerably within the perineum, and the heat of the urine, made it a task of the greatest difficulty to retain the dressings in their proper situation After repeated trials, I found the canula, when introduced, sufficiently tight to prevent the escape of urine by the side, gave the patient constant and severe pain, causing convulsions of the right limb; and when it was too small, the other *evils* were produced, and those so frequently, that I began to despair of the success of the operation. For the space of two days, the part was little assisted by every means I had devised of applying the dressings. At length I discovered that a piece of tin-foil, spread with adhesive plaster, answered the purpose extremely well *. After laying a slip longitudinally, I applied other slips transversely around the scrotum, which kept the lips of the wound sufficiently well together, and stood the washing of the urine without being in the least injured. I was enabled to accommodate a part of this plaster close to the orifice of the urethra, which made a sort of groove or channel for the conveyance of the urine. In whatever form this plaster is modelled, it retains its shape so firmly that, by its use, I was better able to convey the urine over the scrotum than by any other means whatever. My patient assured me, that the urine which washed the wound before this mode of dressing was used, produced as much pain, on every occasion to void, as he suffered during the operation. The evil was sufficiently remedied by the above method; the part took to cicatrize readily; and, in the space of two months, my patient got completely well. I saw him half a year after his discharge, at which time he looked well, and, besides being free from pain in the part, possessed a good share of general health.

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* Since I first used this plaster, in Forster's case, I have formed it of tin-foil doubled, and of sheet-lead of various thicknesses. In a case or two of old ulcerated legs, I have found it remarkably useful applied in a spiral form I discharged the contents of the sores from two or three small openings made in the plaster. Those dressings were longer continued, and kept the parts cleaner and firmer than the plaster in common use.

Extirpation in this case was surely carried to the utmost extent, and the benefit derived from it, even at the latest moment, was evidently great, for he assured me his sufferings in one day, before the part was removed, were more than he experienced during the operation.

Wolsingham, 4th Sept. 1807.

VIII.

Biographical Skeich of Dr PERCIVAL.

THOMAS PERCIVAL, M. D. F. R. S. and A. S. F. R. S. and R. M. S. Edinburgh, late president of the Literary and Philosophical Society at Manchester, Member of the Royal Societies of Paris and of Lyons, of the Medical Societies of London, and of Aix in Provence, of the American Academy of Arts, &c. was born at Warrington, in Lancashire, on the 29th of September 1740, and died at Manchester the 30th of August 1804, at the close of the sixty-fourth year of his age. He was descended from a respectable family, but had the misfortune to lose both his parents when he was very young, to which circumstance, perhaps, some parts of his character may be traced, as the loss of parental instruction was supplied by the able and affectionate care of his eldest sister, who furnishes another instance of training up an only pupil to the foremost station in society by unremitting solicitude and attention. Most of our celebrated men seem to have been indebted to their mothers, or to some kind female superintendent, for their fondness for study, and their habits of application. Dr Percival received his classical education at the free grammar-school at Warrington, and afterwards at the academy established in that town. His predilection for medical studies manifested itself very early; and his choice of the profession was partly owing to the pleasing associations excited by a remembrance of his uncle's virtues and attainments, and partly because medicine appeared most congenial to his feelings, as being more allied to his favourite pursuits in moral and physical science. He went to Edinburgh in 1760, and devoted three years to the study of physic in that university. He there formed an intimacy with several men who have distinguished themselves by their subsequent publications; and the friendship of early years was cherished and preserved by correspondence on subjects of general interest which engaged their mutual attention. During his residence in London, Dr Percival cultivated his acquaintance with Lord Willoughby; and, in consequence of the cheering patronage and recommendation of this learned and accomplished nobleman, he was elected a Fellow of the Royal Society, at an early period of his life. With a view to complete his medical studies, he went to Leyden in 1765, and was there admitted to the degree of Doctor of Physic: his thesis was "De Frigore." After travelling through various parts of France and Holland, he returned home, and married an amiable and accomplished woman, and settled at Manchester in 1767. This large and populous town opened a wide field for his exertions;—amidst such numerous manufactories, and such a crowded population, he had continued occasions for the display of his talents as a physician, as a moralist, and as a public character. He rose to great eminence in his profession, and his merit was not lost in the vastness of the circle of his employment; a situation in which many practitioners are placed. In the intervals of professional engagements, he employed himself in philosophical and experimental inquiries, the result of which were published through the medium of periodical works; for it was not then the fashion to make a volume with what was barely sufficient to fill one chapter. A collection of his inquiries were soon after printed together, under the title of "Medical, Philosophical, and Experimental Essays." These were well received, and are deservedly popular, because they are level with the comprehension of most readers, and communicate useful knowledge in plain and perspicuous language. Medical subjects did not occupy his whole attention—his taste for literary pursuits, and the desire of doing good, led him to direct his attention to topics of a more general nature. He was a zealous advocate for the charitable institutions at Manchester, and took an active part in managing the affairs of the Warrington Academy. The studies most grateful to him were those which include the human mind, and especially the moral constitution of mankind: his attachment to speculations of this kind showed itself in his correspondence and his conversation, and especially in the pleasing compositions which he published for the instruction of young persons. At a country residence, a few miles from Manchester, he amused himself, amidst the pleasures of retirement with his family, by writing moral tales, fables, and reflections, for the use of his own children; and if the reputation of a book be estimated by the number of its readers, the " *Father's Instructions*" must rank as the first of Dr Percival's productions, both in this country and on the Continent. When population and comparative mortality were favourite themes of political disquisition, Dr Percival associated his name with Price and Franklin in these statistical researches; and he communicated to the Royal Society some valuable documents, showing the comparative healthiness of different situations, employments, and modes of life, and demonstrating the insalubrity of large towns and confined occupations. It appears, that he had it in contemplation, at one time, to offer himself a candidate for a fellowship in the London College of Physicians; having the natural wish of every man, whose success assures him that he has some merit, the laudable ambition of being associated with the most eminent of his contemporaries. Some feelings of personal attachment to some members of that royal corporation, might be an additional inducement for his wishing for the honour of being chronicled with them; but the honour was not obtained, and it ceased to be coveted when the private motive was done away, so that Dr Percival's name floats down the stream of time with those of Fothergill, Dobson, Darwin, Currie, and others, who will not be forgotten, although an English university did not contribute in any way to save them from oblivion. The Literary and Philosophical Society of Manchester is indebted to Dr Percival for its origin, besides for many miscellaneous essays which adorn their memoirs. He presided over that institution for many years, and the members have erected a tablet to perpetuate their esteem and regard for their friend and founder. One of his last and best works is a code of institutes and precepts for the professional conduct of physicians and surgeons, entitled " *Medical Ethics*," in which he has drawn a portrait of himself, by tracing, with his own hand, what sort of character a physician ought to be.—" His merits, as a practitioner of physic," says one of his eloquent biographers, " and not less the benefits conferred by him on medical science, are too generally understood and confessed to require any minuteness of detail; a quick penetration, a discriminating judgment, a patient attention, a comprehensive knowledge, and, above all, a deep sense of responsibility, were the endowments which so conspicuously fitted him at once to discharge the duties, and extend the boundaries of the healing art. His exterior accomplishments and manners were alike happily adapted to the offices of his profession. To an address peculiarly engaging, from its uncommon mixture of dignity, respectfulness, and ease, was united a gravity of deportment that bespoke the seriousness of interest, not the gloom of apprehension. The expression of a benign sympathy which, on every occasion of distress, his features borrowed from the genuine feelings of the kindest commiseration, presented him likewise the comforter in the physician; and the topics of encouragement and consolation which the goodness of his heart, and the ample stores of a cultivated mind so abundantly supplied, enabled him to administer relief to the wounds of the spirit, with no less efficacy than to diseases of the body."

A complete edition of Dr Percival's works has been lately published by his son, who has prefixed memoirs of his life and writings, and a selection from his literary correspondence. Biography has only to indulge in the language of panegyric, and a faithful character of its present subject is drawn. To those who had no personal acquaintance with him, his writings betray the cultivated taste and the amiable man; and to his more intimate friends, the charms of his conversation will furnish never-failing sources of pleasing recollections. The history of nations is considered of importance, as giving lessons of experience; and, though precedent may be more useful, perhaps, where numbers are concerned to act, than to individuals, yet there is no form of advice which so immediately predisposes to concurrence as the quotation of some analogous case, and nothing more pleasing than to hold up the character of a wise and good physician, to encourage imitation.

IX.

Observations on the Operation of Lithotomy. By ALLAN BURNS, Member of the Royal College of Surgeons, London, and Lecturer on Anatomy and Surgery, Glasgow.

THE operation of lithotomy, which, even when skilfully executed, is attended with danger, is often rendered more hazardous by being improperly performed. It becomes, therefore, an object of much moment to the surgeon, to study carefully the nature of the parts about the pelvis; to consider the operation in every possible point of view; and to select the most proper instruments. The gorget is at present the instrument in general use. Most surgeons are, however, displeased with it, and though they are willing to allow, that a more proper instrument might be found, yet few are inclined to exchange it for any other; they continue to employ it, not because they look upon it as well adapted for the end for which it was introduced, but merely because it was transmitted to them by their forefathers, who knew no better mode of operating. The objections to the employment of the gorget are not unknown; they are numerous, and very fully explained by Mr John Bell, in his splendid work on lithotomy. Surgeons considering these inconveniences, have proposed different mechanical contrivances, and various modes of operating have rapidly succeeded each other, which is a convincing proof, that none yet proposed are calculated to obviate the danger.

The most ancient operation on record, that of cutting on the gripe, is essentially defective, and is liable to much uncertainty, the parts cut varying, according to the degree of force employed by the operator, in projecting the stone into the perineum. When little exertion is made, if the incision be begun just behind the scrotum, the urethra may be altogether detached from the prostate; nay, even where the external incision has been very properly made, the gland may be divided by a transverse cut, or, if the stone be much pushed out, the bladder may be entered beyond the prostate, and thus both the vesiculæ seminales and vasa deferentia, must inevitably suffer.

Fabricius Hildanus was sensible of these dangers, and attempted to obviate them by cutting on a staff introduced along the urethra into the bladder. He began his incision in the perineum, about half an inch to the side of the raphe, and he continued the cut, inclining the knife, as he proceeded, towards the hip. He continued to divide the parts till he reached the staff, after which he enlarged the wound to such an extent, as to permit him easily to extract the stone, which he had formerly brought into the neck of the bladder, by pressure with the fingers in the rectum. In extracting the stone, he employed a hook.

This modification and improvement on the Celsian mode, is still, by some able surgeons, employed in operating on young subjects, and is, in many respects, similar to the one ascribed by Mr John Bell to Raoues, an operator whose merits have been variously estimated by his friends and enemies. By the former, his cures were represented as miraculous, and his dexterity was reported in language calculated to stagger belief. On the other hand, if we give credit to the stories related by his numerous host of opponents, we shall be led to view him as a mere pretender, an interested impostor, who scrupled not to cut those who placed themselves under his care, whether they had a stone in their bladder or not. By some it has even been asserted, that he never entered the bladder, but merely made an incision into the perineum; produced a stone, with which he had taken care to provide himself; then he desired the patient to caper for a time about the room, after which the sore was dressed, and the patient put to bed. When no stone had been in the bladder, it is reported, that the agitation of the system, and the high expectations which were raised, sometimes removed the anomalous affection which had led to the supposition of calculus; but it is confidently asserted, that where the person actually had a stone in the bladder, the pain soon recurred, a new operation required to be performed by some one better qualified to do so than Raoues These idle stories are noticed, and formally refuted by Mr J. Bell, who ascribes their invention to the envy of those who were less successful than Raoues, and who dreaded his rising reputation.

Romanis and Marianus introduced, on speculative grounds, or, as some have asserted, from worse motives, an operation, rude and painful in its performance, and very fatal in its consequences. They pretended, that wounds of membranous parts were mortal, but they taught that these parts might with impunity be dilated; and on this principle of dilatation, Romanis invented a complex and dangerous plan of operating; one very incompetent to fulfil the end proposed; one which, although supposed only to dilate, yet in reality lacerated the parts. The consequences of this rude treatment of the delicate bladder, were such as might naturally have been expected to result, from the violence employed in tearing open the prostate gland. Sloughing of the urethra, and gangrene of the neck of the bladder, were by no means unfrequent occurrences, and few, if they escaped those greater evils, recovered without fistula. This mode of operating, which had been long established, and in high repute, was displaced, to make way for the rude commencement of the lateral operation, a plan introduced by Frere Jaques, an illiterate but bold operator, who, despising authority, operated after a fashion of his own. At the beginning of his career, his success was by no means great, but still, by the novelty and simplicity of his plan, he made many converts, and while he was abused by one party, he had honorary rewards conferred on him by another. When he began to operate, he was completely ignorant of the structure of the parts he had to cut; he therefore proceeded on no fixed principle, but sometimes divided one part, sometimes another. From this cause, as well as from his bestowing no care on his patients after having removed the stone, his operations were on the whole unsuccessful. Among those, however, who witnessed his operations, there were a few who knew anatomy well, and valued it justly: These prevailed on Frere Jaques to submit to instruction; they dissected and demonstrated to him the parts in the perineum, and in the pelvis; they suggested improvements on his former mode of operating, which he eagerly embraced; and thus, by the assistance of Du Verney, Felix, and Fagon, he reduced his plan to a regular standard, when the success of his operations equalled the expectations of his friends.

Frere Jaques, towards the latter part of his life, operated in a mode essentially different from what he had done at his outset. Before he was made acquainted with anatomy, his operation was more simple than afterwards; but it was also less safe, for he cut almost without a guide. His patient being properly placed, his staff ungroved, and more curved than the one at present employed, was introduced, he then plunged his spear-pointed knife into the left hip, by the side of the tuber ischii, and passed it on till he entered the bladder, when he groped about for his staff, on which, as correctly as he could, he cut outwards; and having divided as much as he considered necessary, he drew out his knife, and, in its place, introduced through the wound a blunt dilator, a myrtle leaf, with a narrow curved handle; along this instrument he conducted the forceps into the bladder, extracted the stone, then withdrew the staff from the urethra *, and finished by dressing the wound with a mixture of wine and oil.

In this mode of operating, it is evident that there could be no certainty, the state of the bladder, in respect to dilatation, determining, along with the inclination of the hand, the point where the knife entered. Sometimes the stilet passed into the rectum, sometimes it was insinuated between the bladder and pubes, and at other times it transfixed this viscus, or wounded it in several points. When, however, he was made acquainted with the anatomy of the parts he had to operate on, he abandoned his former mode of operating, and even, in some measure, modified the principle of his plan. In the early part of his life he entered the point of his stilet as near to the side of the shoulder of the bladder as he could, and then, in withdrawing the instrument, he cut as much as he thought necessary of the substance between the knife and the staff. The principle, therefore, of his original plan, was to cut from behind forwards; but he completely laid this aside in his improved mode, which was, in fact, a modification of our present lateral operation. In performing his operation, as altered by the Parisian Court surgeons, he employed a grooved staff, which was introduced into the urethra, and, by pressure on the handle, made to project in perinæo to the left of the raphe. Then, without any preparatory dissection, he thrust his knife into the perineum, passed it on

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* Deschamps, Vol. I. p. 72.

on till its point entered the groove of the staff, along which he pushed it home into the bladder, as we now do the gorget. Here there was an evident alteration, and a change for the better; but still this mode was reprehensible, for, from the nature of the operation, it was impossible to make a fair and clear division of the parts which ought to have been cut. The external incision was limited, and the wound into the bladder resembled a large fistulous opening into that viscus. The levator ani was not enough divided, the stone, if large, was not to be removed without difficulty, and not till after considerable laceration of the parts; nay, in some cases, it was found altogether impracticable to extract the calculus till after ulceration had enlarged the opening.

Frere Jacques has, in general, and with justice, had the honour assigned to him of having paved the way for the introduction into general use of the lateral operation. He was not, however, strictly speaking, the first who employed this mode, for Franco, who wrote in 1561, made use of a plan of operating resembling, in principle, our present operation. In the description of Franco's operation Deschamps states, that " the grooved staff being introduced into the bladder, with its convexity directed to the left of the raphe, he makes on that side an incision three or four fingers breadth from the perineum. Through the wound he conducts a double-edged razor into the groove of the staff, and along that groove he cuts the parts about the neck of the bladder, to such an extent as to permit him to extract the stone, which he does with a pair of forceps, conducted into the bladder along a blunt gorget." This operation, introduced by Franco, is very nearly like our lateral operation; but it seems, even when first proposed, to have attracted very little attention, and, before the time of Frere Jaques, it had sunk into complete oblivion. To Frere Jaques, therefore, we owe the principle of our mode; but so much has his operation been altered by succeeding lithotomists, that we now feel some difficulty in recognising the rough original.

Had Frere Jaques really employed the myrtle leaf as a dilator, it would materially have altered the principle of his mode of operating, and would have converted it from a new and simple plan to a compound operation, retaining one of the worst features of the Marian mode. As Mery, however, justly observes, the myrtle leaf, in the hands of Frere Jaques, was in no wise employed to enlarge the wound; it preceded the introduction of the forceps, and was esteemed necessary to guide them to the stone, but it neither could dilate nor yet lacerate, the extent of the incision being already greater than the breadth of the conductor. The two operations of Frere Jaques are, in principle, the same with those at present most approved. The first is in essence the same as the one practised by Cheselden, and varied and recommended by Mr John Bell, while the improved mode of Frere Jaques bears a near resemblance to our operation with the gorget. Frere Jaques' operations were rude and simple originals; he accomplished, by a single thrust of his knife, what we now do by a deliberate dissection; we go on, step by step, seeing or feeling every fibre we divide, while he, by a random push, endeavoured to cut precisely the same parts.

Raw, who was a contemporary of Frere Jaques, rose up a very successful operator in Holland, but he sullied his reputation by his secrecy respecting the plan he adopted. Many conjectures, which it is not necessary to detail, were formed concerning his mode, which he so carefully concealed that it was unknown even to his most intimate friend Albinus, who assisted him in performing many of his operations. Some imagined that Raw entered the shoulder of the bladder, leaving the prostate untouched. The *father* of *Albinus* positively asserts, in his oration on the death of Raw, that this lithotomist divided not only the shoulder of the bladder, but also fairly cut its neck. Heister likewise assures us, that, when attempting to operate as it had been stated that Raw did, he uniformly divided all the parts about the neck of the bladder *. As no one, however, ever inspected the body of any of those who died after having been operated on by Raw, it is impossible to say with certainty what parts he cut. His success, however, proves that he did not operate in the way usually represented by his enemies.

In England, Cheselden improved the operation of lithotomy, but not until repeated failure had taught him the necessity of making a free division of the prostate gland and neck of the bladder. It was much about this time that the present lateral operation came into vogue, was introduced into general use by high and respectable authority, and was opposed by others, who proposed trifling alterations on the plan.

Although the operation with the gorget be the one in general use, still there are several objections to the employment of this instrument. The pudic artery may be wounded, or the beak of the gorget may slip from the groove of the staff, and be driven among parts which ought not to have been touched. These are dangers which, in this operation, have not been overlooked; they have been speculated on, and many contrivances have been invented to guard against their occurrence.

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* Camper.

John de Saint Cosme, of the order of Fueillans, at Paris, constructed an instrument like a staff, having concealed in it a knife. In operating with this lithotome, it was introduced into the bladder by an opening made into the membranous part of the urethra; the curved staff, which had previously been passed along the urethra, was next withdrawn. A spring in the handle of the lithotome was then touched, the bistoury started from its concealment, and, by pulling out the instrument, the prostate and neck of the bladder were divided. This invention, although it was calculated to prevent the risk attendant on the slipping of the gorget, only obviated one part of the danger, while it added to the other. From the mechanism of the lithotome, and the structure of the parts about the pelvis, three series of parts were liable to be injured. The pudic artery might be cut across; the bladder, if collapsed, might be injured in more than one place; and, if the knife were too obliquely directed downward, the great gut might be laid open. Although Frere Cosme's lithotome be now seldom employed, yet some followed the principle of his operation, but so altered the construction of the instrument, as to secure it from improperly injuring the coats of the bladder and the pudic artery.

The high operation had, from absolute necessity, been introduced, in 1561, by Franco, and, from similar motives, was again revived, in 1658, by Frere Cosme. The operation, as performed by Franco, was defective; a high incision was alone made into the bladder; this viscus was cut into above the pubes, below the point where the peritoneum is reflected over the abdominal muscles; the stone was easily extracted, but as there was no dependent opening from the bladder, the urine was apt to insinuate itself into the cellular membrane, about the pubis, to irritate and inflame the parts, and to produce either gangrene or suppuration, and the formation of sinuses. These disadvantages led to the disuse of the apparatus altus, till revived and new-modelled by Frere Cosme, who proposed to open the bladder in perinæo, and then, through an opening made just above the pubes, he introduced a scalpel with a button point, with which he slit up, for an inch or two, the linea alba, the knob on the end of the knife pushing aside the peritoneum. After this, he introduced, by the aperture in perinæo, a staff, with which he projected the bladder through the opening between the recti muscles: this done, he cut into the front of the bladder, and either with his finger and thumb, or with a pair of forceps, he took out the stone. In this way, he extracted a calculus from the bladder weighing ℥xxiv. Were it not for the danger attendant on the double incision into the bladder, and the protraction of the operation by the dissection about the perineum, this plan might, with propriety, be adopted. Indeed, as modified by Deschamps, a voluminous and minute writer on the stone, who, in place of the puncture in perinæo, perforates the bladder from the rectum, it has met with the approbation of Mr Thomson of Edinburgh, who considers this, on particular occasions, to be the most advisable mode of operating. It is evident, however, that if the bladder be thickened and indurated, that it will be impossible, by the canula, to raise it above the pubes; it is therefore, only admissible when we have reason to suppose that the stone is too large to be removed by the perineum, and where the bladder is healthy. Here the puncure from the rectum is simple, attended with no increase of the danger, allows the bladder to be elevated by the canula, and secures a dependent outlet for the urine. We avoid thus the necessity of any discharge by the wound above the pubes, we run no risk of the urine insinuating itself into the cellular membrane, no inflammation is excited, no sinuses are formed,—consequently the person ought speedily to recover from the effects of the operation.

In operating according to the two last methods, the gorget did not require to be employed. Lecat, in 1747, and Sir C. Blicke, more lately, however, proposed an improvement by which we might operate with the gorget, and, at the same time, avoid the risk attendant on the slipping of the instrument. He formed the groove of the staff and the gorget so, that they locked into each other, and continued fixed till near the extremity of the staff, where the groove widened, allowing thus the beak of the gorget, when the instrument had fairly entered the bladder, to slip from the staff. By this contrivance, so long as the beak of the gorget remained entire, the one instrument was prevented from escaping from the other. Few, however, are inclined to trust to this gorget; the point of contact of the beak and body of the instrument is necessarily so small, that, on the slightest deviation from the direct line in pushing it home, it snaps across, the gorget and staff part from each other, the seminal vessels and rectum are injured, and, even where it runs fairly along the staff, the pudic artery is exposed to injury.

Were the risk of the breaking of the beak the only objection to the use of Lecat or Blicke's instrument, it might be overcome; but even if we could effectually prevent the accident, still the instrument is inadmissible, for it is to be recollected, that upon the slightest deviation from the fair thrust in running the gorget home, the beak and groove catch on each other, and the more we push, the firmer we fix them.

Le Dran, in 1741, published his operations in surgery, which were soon translated by Gataker. In this work Le Dran describes an operation, the introduction of which has been claimed by several since his time. This operation, as performed by him, was rude, but the principle was that of reducing the male into the state of the female urethra.

The late Mr Dease of Dublin, and Mr Muir of Glasgow, reflecting that the great cause of the gorget slipping from the staff depends on the former being run along a curved surface; and observing that this instrument seldom or never slips from the staff in the female, have proposed, like Le Dran, to convert the male into the female uretha. To accomplish this, they introduce, as usual, a curved grooved staff into the urethra, and make the common incision in perinæo; they then open the membranous part of the urethra, but, in place of running home the gorget on the curved staff, they conduct along the groove a female staff, and immediately withdraw the curved one. With the left hand they grasp the handle of the straight staff, then with the right run home the gorget, as in the female. This was a material improvement, in which, although it multiplied the instruments, yet it simplified the operation and lessened the danger; for it must be confessed, that even those who are not steady enough to run the gorget along a curved staff, shall completely be able to conduct it along a straight surface. This operation, however, only lessens one part of the danger; it obviates the risk arising from slipping of the gorget, but it leaves the pudic artery as much exposed to injury as ever.

Deschamps describes an instrument invented by Jarda, surgeon at Montpelier, which, by complicated machinery, was intended to simplify and render safer the operation. This invention is akin to Earle's double staff, but it is more complex. It consists, like his, of a curved staff, intended to be introduced along the urethra into the bladder, and having hinged to its handle another staff, shorter than the former, and sharp at its end, which Jarda folds down to the perineum, pushes it through the skin behind the bulb of the urethra, and carries it deeper, till at last its point enters the groove of the staff, already in the urethra. This supplementary staff, in both Jarda and Earle's instrument, is intended to conduct the knife into the groove of the deep staff. But Jarda aimed at more in his contrivance; he wished to secure the rectum from injury, by introducing into the anus a limb of the instrument, which he expected would push the gut aside; by machinery he also contrived to support the scrotum.

Mr John Bell, considering the danger where the gorget is used in any way to be great, advises that we lay it aside, and in its place employ the scalpel; and further recommends, that the operation should be performed, not by cutting the prostate from without inwards, but in the reverse way. Mr Bell introduces a curved grooved staff into the urethra, makes a free incision in perinæo, divides completely the proper muscles, exposes fairly the membranous part of the urethra and prostate, to do which it is necessary to make an extensive division of the fibres of the levator ani. He next feels for the staff beyond the prostate, where it is easily discovered through the coats of the bladder; having felt it, he introduces a scalpel, and divides the neck of the bladder and the prostate gland, cutting these parts in progression from within outwards. This operation, which professes to divide the same parts which Frere Jacques endeavoured to cut and sometimes divided, in his first operation, is not without its inconveniencies. We draw the scalpel along a curved surface; we, therefore, run the risk, as with the gorget, of slipping from the groove, of injuring parts which ought not to have been intermeddled with. In operating with the gorget, if the beak slip, we wound the rectum, and perhaps the seminal vessels; the instrument strikes back among the viscera of the pelvis, injuring deep-seated parts; but, on the other hand, if the scalpel slip, we cut across the pudic artery, and detach the corpus cavernosum from the bone. The slipping of the scalpel is not our only danger; the knife may remain correctly in the groove of the staff, and yet parts may be cut which ought not to have been touched. If the prostate be indurated, its division is difficult; it yields before the knife, is pulled low down into the perineum, then the edge of the knife touches the bulb of the urethra, sinks into its substance; blood is effused; all is rendered confusion; the operator still continues to divide the gland; the knife sinks still deeper into the penis, till at last it reaches the ramus of the pubis, as I have found happen on operating on the dead subject, where, perhaps, the parts yield more than they would have done during life.

We have now taken a short survey of the chief modes of operating, which have at different times prevailed; and I think, from this review, that we are warranted to conclude, that none of the operations yet proposed are fully adequate to accomplish the purpose for which they were introduced. To discover a plan better calculated to obviate the danger, ought to be the wish of every one interested in surgical pursuits. The plan introduced by Cheselden, and revived by Mr Bell, I would assume as the basis of the operation; but still, along with their mode, I would blend that of Mr Dease, by which, I imagine, we may overcome some of the disadvantages attendant on each, considered individually.

For more than twelve months, I have been in the habit of showing such an operation, which is as simple in its performance as the one in general use, is attended with less danger to the patient, permits of an incision varying in size according to the wish of the operator, and completely prevents injury of the rectum or pudic artery. To perform this operation, I introduce into the urethra a common curved staff, then make the usual incision into the perineum, divide fully and freely the levator ani, so as to expose the whole extent of the membranous part of the urethra, the complete extent of the prostate gland, and a portion of the side of the neck of the bladder. When this part of the operation is finished, I open the membranous part of the urethra, and introduce, through the slit, a straight or female staff, with which I feel the stone, and then withdraw the curved staff. Next, I feel beyond the prostate for the instrument, and then perforate the coats of the bladder with a curved knife, the point of which is to be inserted in the groove of the staff. This done, I grasp the handle of the staff firmly in my left hand, and, with the right, lay hold of the hand of the knife. Having ascertained that the two instruments are in fair contact, I rest the one hand upon the other, pressing them together, and then, by a steady extraction I pull out the knife and staff together, which is preferable to drawing the knife along the staff; it prevents the risk of the one slipping from the other; it guards the bulb of the urethra, and every other part from injury; for between them and the cutting instrument the staff is interposed. In the introduction of the knife, however, some caution is necessary, and a clear knowledge of the relative situation of the parts in the pelvis is requisite; but this information is equally necessary in operating with the gorget. When introducing the knife, the side of the blade must be laid flat along the forefinger of the right hand, which is to project a little beyond the point. In this state the finger and knife are to be entered into the wound, opposite the tuber ischii; but, in proportion as they pass along, they are to be inclined forward, till at last, with the point of the finger, the staff be felt through the coats of the bladder, a little beyond the prostate, and rather higher than the orifice of the urethra. Here the knife is, with the finger, to be pushed through the bladder; and, when the point is fairly fixed in the groove of the staff, the operation is to be finished by the steady extraction of both instruments. In operating with the gorget, it is necessary that the bladder be more or less distended, a circumstance, in some cases, with difficulty accomplished, from the irritability of this viscus. In operating with the knife, the parts can be as safely cut when the bladder is empty as when full, indeed, perhaps with greater safety, for, when not dilated, the shoulder of this viscus can more easily be pushed in, so as to permit the finger to reach

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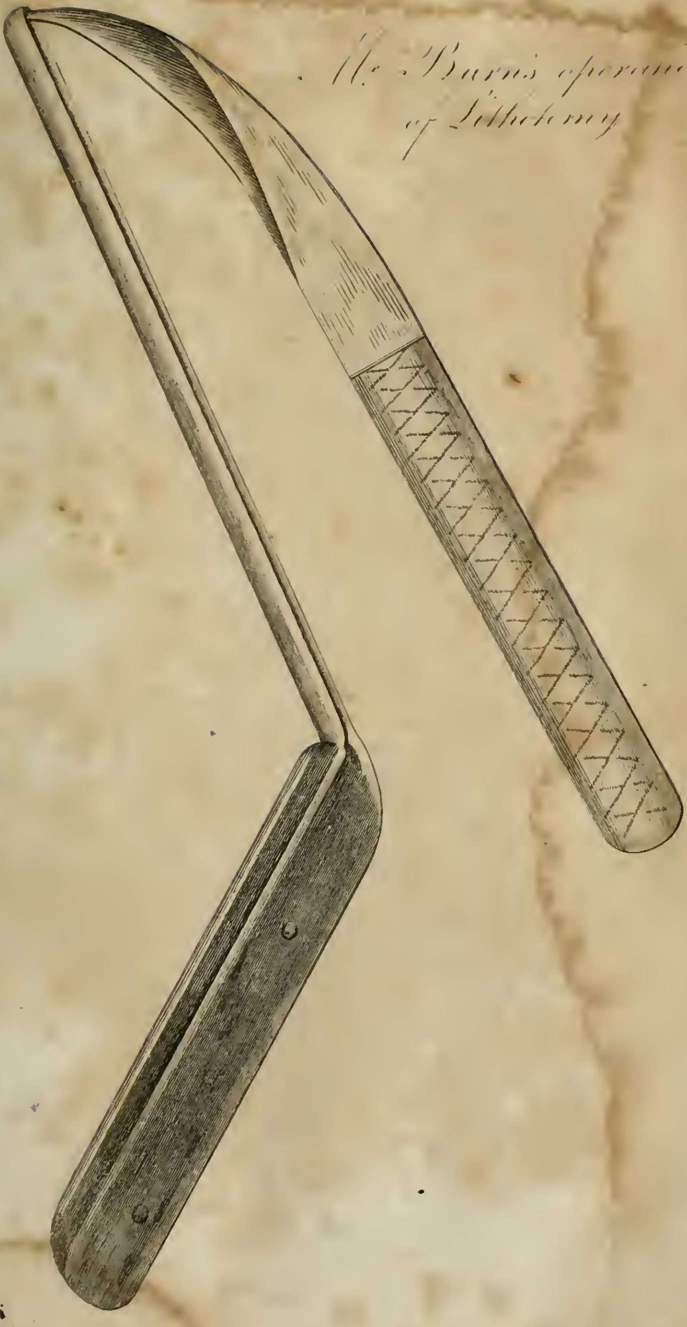
Mr. Burn's operation of Lithotomy



reach the staff. Some have imagined, that the introduction of the point of the knife, into the cavity of the bladder, must be dangerous, inasmuch as we are liable to wound the sides in searching for the groove of the staff. This objection is the result of an inaccurate knowledge of the state of the parts, for, in fact, we never grope in the bladder with the point of the knife, but with the finger push in the side of this viscus into close contact with the staff, into the groove of which the knife enters as soon as it has passed through the coats of the bladder. Others again have objected to this mode of operating, on the idea of its being more tedious in performance than with the gorget. This is also founded on a mistaken notion. True it is, indeed, that were a surgeon, who has been much in the habit of operating with the gorget to exchange it for the knife, he would undoubtedly be longer of performing the operation in the latter way ; but the same does not hold good respecting those who have never before operated in either mode. From all that I have seen I would say, that the one operation may be as expeditiously performed as the other ; but, even admitting that the operation with the knife uniformly required a little longer time, still I think that, if safer, it ought to have the preference.

Description of the Plate.

Fig. 1st. A straight staff, such as is employed in operating on the female, only smaller than these are generally made. When about to operate, a curved grooved staff is to be introduced into the bladder by the urethra ; next a free incision is to be made in perinæo to the left or right, as occasion may require, of the raphe. We then dissect till we reach the membranous part of the urethra, which is felt just beneath the angle of the pubes, embraced by the triangular ligament ; from this we proceed in our dissection inward, till we lay bare the whole extent of the prostate, and a part of the neck of the bladder. This being done, with a narrow bladed scalpel, we slit up the membranous part of the urethra, and conduct along the groove of the curved staff, the straight conductor which, for this purpose, must be slender. In the passage of the straight staff, we seldom find any difficulty, provided the canal of the urethra be exposed by an extensive cut ; if, however, the incision into the membranous part be limited, it is hardly possible to insinuate the staff. Where the incision has been properly made, it rarely happens that we meet any obstacle in carrying in the instrument. I recollect, however, in one case, where the veru montanum was tumid, and the orifices of the seminal ducts large, that the difficulty was

considerable in passing both the curved and the straight staff; indeed, we could not introduce the latter till its point was raised into close contact with the groove of the curved one, by depressing the handle toward the anus. It is proper, in operating with the straight staff, to have, in the urethra, a full sized curved staff, with a wide and deep groove, by which we facilitate the introduction of the straight one. If it be thought proper, the groove of the straight staff may be closed at the end, by which we prevent the possibility of the point of the knife slipping beyond its termination. When the straight staff is fairly introduced, we are to feel with it for the stone, in order to ascertain that it really is in the bladder, which being done, an assistant is to withdraw the curved one. During the introduction of the straight staff, its handle is directed backward to the sacrum; but, on removing the curved conductor, the surgeon is to turn the handle of the former across the right tuber ischii, so as to point the groove of the instrument to the ramus of the left ischium. Next, in his right hand, he is to grasp the curved knife, Fig. 2d., and, laying its blade flat along the forefinger, the point of which is to project beyond the end of the cutting instrument, he is to insinuate both into the wound, opposite to the left tuber ischii; and, as he enters, he is to be careful to direct the point of the finger upward, so as to touch the neck of the bladder considerably above the trigonom, then, by pressure, the coats of the bladder are to be pushed in till we touch the staff, when, by turning the knife in the hand, and pushing its point in, we perforate the bladder, and fix the point of the knife in the groove of the staff: we are then to conclude by extracting both instruments steadily. During the extraction, the fore-finger is still to lie along the back of the knife, as without this, were the prostate tough, the two instruments might separate, leaving a part of the gland uncut, a circumstance which can never occur where the finger supports the knife. The mid-finger may also be used to press down the rectum, but this is only necessary in those cases where the prostate is sunk into the gut. Deschamps observes, that this unnatural relation of the gland to the gut is sometimes confined to one side. In one man on whom he was operating with the lithotome of Frere Jaques, he found, on the left side, the gland so deeply imbedded in the gut, that he was obliged to operate on the right side, where the gland was more in the natural situation. It has generally been supposed, where the rectum was injured in operating with the gorget, that the beak had started from the staff; but, from this conformation of the parts, we see that the gut may, even where the gorget ran fairly along, have been divided, which is an additional argument against the use of this instrument.

In operating with the gorget, where the abdominal muscles have been firmly contracted, the peritoneum has, by the pressure, been so far protruded between the bladder and the rectum, as to be injured in pushing the instrument home. This happened in the hands of Bertrandi, who, after having divided the prostate just as it ought to have been, found a portion of intestine present at the wound. He pushed back the gut, introduced the forceps, and extracted two calculi *. Camper also mentions, that, by rashly thrusting in the gorget, the peritoneum may be divided, an occurrence which can never happen if we employ the straight staff and knife.

Besides, in operating with the gorget, where the levator ani was scarcely cut, and where a part of the prostate remained undivided, it was often difficult, after the removal of the gorget, to get the forceps in; most surgeons, therefore, allowed the gorget to remain as a conductor to the forceps. This is, however, only necessary where our openings are limited, and can never be requisite where the neck of the bladder and prostate are freely cut, as in using the straight staff and knife.

Glasgow, Sep. 15th 1807.

THE INQUIRER, No. XII.

On the Present State of Medical Science in Germany.

Quid sit pulchrum, quid turpe, quid utile, quid non.

IN travelling through the different universities on the continent, our curiosity naturally leads us to inquire, what are the prevailing doctrines taught in these schools? by whom are they supported? what is the effect and influence of these speculations? and what is the probable chance of their being unintelligible, or meritorious and useful? To these questions, when asked about the state of medicine and philosophy in Germany, an Englishman might reply as a French emigrant did on his return to his native place, when his neighbours inquired about the language of the people where he had been: "Ce n'est pas proprement une langue, (dit-il), chacun parle son jargon, mais ils s'entendent entr'eux."

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* Deschamps, Vol. iii. page 143.

tr'eux." The last clause of this sentence is no small praise indeed, when applied to the new schools of German philosophy; for the number of sects and systems is so great, that it is no easy task to understand even the terms employed by the different writers. Medicine comes in for some share of the miserable controversies which are going on between the partisans and opponents of the new system of "*the philosophy of nature*," as it is called. The prevailing doctrine now taught is pure *idealism*, and the disputes are like those between the idealists and realists of the middle ages, substituting useless questions, which do not admit of being proved, for practical inquiries. This scholastic philosophy has extended its influence to all branches of science; it has set all the heads a-reading and writing a great deal, without understanding much; and, like the philosophy of old times, only serves to trouble the state of science, already too much confused. Physical anthropology, organical physics, and psychological medicine, engross all the attention which the sober studies of anatomy and chemistry do not occupy. On subjects of practical medicine, very few books have been published for several years past; the catalogues at the Leipsic fairs have been filled with explanations of the new, and attacks and defences of the old, theory of excitability, which has been grafted on the theory of our countryman John Brown. As the doctrine of this celebrated writer is essentially connected with the present state of medical opinions in Germany, it may not be amiss to give a sketch of its rise and progress in that country. It is only the chiefs of sects of every kind that acquire any degree of celebrity by their writings; hence it may be explained how the works of John Brown are more universally known on the continent than any of our best practical authors. The humoral pathology, or the doctrine taught by Boerhaave, prevailed, till lately, in all the medical schools in Germany; and, at this day, it forms the principal articles of faith amongst many practitioners. But the simplicity of the Brunonian theory excited great attention, and stimulated the professors to reject their former opinions, and adopt this new system with enthusiastic zeal. The principal supporters of the doctrine of excitabiliy were Frank, Weikard, Thomann, Marcus, and Joseph Frank. The first translation of the "Elementa Medicinæ" was published at Frankfort in 1795; several years after the doctrine itself had made its way into Italy, and revolutionized one half of the professors at Pisa, Padua, Pavia, and Milan. This rapid conversion was not so much from a conviction of the truth of the theory itself, but because something new in the shape of a system was wanted, since the old hypothesis of humours was become demontratively false. *Moscati* does not scruple to acknowledge this much in the preface to his translation of Brown's works, wherein he confesses his object was to oppose Brownism to humorism, which was prevalent throughout Italy, and particularly taught by the professor of the practice of medicine at Pavia. The partisans of Brown were naturally disposed to confirm the alleged superiority of his theory and practice, by observations made at the bedside of patients. Hence a series of clinical cases and experiments were published by Dr Joseph Frank at Pavia, and by Dr Thomann, first physician to the hospital at Wurtzbourg. These two records of Brunonian practice may be fairly appreciated by knowing the fact, that their authors have both given up the theory and practice of their idol and master. There is a spirit of inordinate generalization, a love of systematic novelty among the German physicians, which is unknown in this country, and, fortunately, we have no relish for its charms. Throughout every school, and every town, a most ardent zeal is shown in the pursuit of physical knowledge; vast numbers of men do nothing but read and write from one year to another; and it is astonishing with what avidity and emulation new inventions are received and propagated. The works of Van Swieten, De Haen, and Stoll, are now seldom heard of; the gastric and bilious hypotheses are sunk into merited oblivion; and the sthenic and asthenic theory of Brown is lost in the complicated maze of the new philosophical speculations. Schelling, a pupil of the celebrated Kant, formerly professor at Jena, now removed to Tubingen, is the founder of a new system, styled, " the Philosophy of Nature." It is difficult to give an idea of what this philosophy consists; and, anywhere but in Germany, one would be astonished to hear men of sense and reflection declare, that what is called empiricism, sensible experience, and experimental philosophy, are necessarily and demonstratively false. And the demonstration, as far as it is intelligible, seems to proceed on some transcendental notions of the powers of the human mind and its external relations. Troxler, a young Swiss physician, who studied at Jena, and was there initiated into the mysteries of Schelling's philosophy, has become a zealous advocate and expounder of those doctrines. His " *Versuche in der organischen Physik*," and his " *Grundriss der Theorie der Medicin*," are much esteemed by those who pride themselves on being able to understand them. *Wagner* is another popular writer on this department: he was originally one of Schelling's warm friends and admirers, and taught his philosophy at Salzburg; but he has now set up for an original thinker himself, and imitates his friend and associate in bringing forth something equally new and strange. *Fichte* is one of the most distinguished of the *literati*; but his writings belong more to the higher parts of metaphysics than to physics, and have no reference, like the others, to medicine, physiology, mineralogy, and chemistry.

Such lofty speculations, such dreams, such transcendental views, are less surprising, when we consider, how great the demand is for philosophical novelty; how many universities there are, and how many professors of philosophy in each, who must think, in order to live, and must publish all they can think.

Yet it is lamentable to reflect on such a waste of time and ingenuity, which might be more usefully employed in making new observations, or in correcting the errors of our predecessors; for these theories are not founded upon any newly discovered facts, but are merely the result of premature metaphysical generalization. After reading through such long declamations, in so many volumes, which announce the sure foundation of all medical science, and a perfect knowledge of nature, it is mortifying to find nothing but what has been repeated over and over again for two thousand years past, in so many different languages: one is tempted to cry out with the poet Martial:

> " Turpe est difficiles habere nugas,
> Et stultus labor est ineptiarum."

From so general a censure, however, the physiological writings of Professor Reil at Halle, must be exempted. This is not the place to vindicate the peculiar merits of his works, yet it ought to be known, that his "*Arhiv für die Physiologie*," and his "*Fieberlehre*," are remarkably distinguished from the works of his contemporaries, by many just views on several points of physiology and the practice of physic. The object of Reil's inquiries is not to seek for the cause of animal life, either in the respiration, or in the brain, but he simply states, that life is the effect of a perpetual series of physico-chemical changes taking place in organic bodies; and he points out the way to obtain a philosophical analysis of those complicated facts, which are briefly expressed by the words *vital actions* and *organic motions*.

The number of medical journals is very considerable. Those edited by Loder, Hufeland, Harles, Mursinna, and Roschlaub, are the best, and contain the largest collection of useful facts. There is one journal for foreign literature, entitled, " Journal der auslandischen Medicinifchen Literatur," edited by Hufeland, Streyer, and Harles of Erlangen, which is well conducted, and gives early intelligence of all the most important medical books published in different countries of Europe. Anatomy is studied with particular attention in every college, and the opportunities for such pursuits are very favourable. *Loder* teaches anatomy and surgery at Halle, and Soemmering enjoys the reward of his well-earned reputation, by holding the sinecure place of an academician at the Court of Bavaria at Munich. With regard to practical parts of physic and surgery, it is not easy to form any acccurate conclusion, because the particular excellence of an art depends so much upon the skill of the artist, and individuals differ so much from each other in different places, and even from themselves on different occasions. In general, however, the German physicians are far behind the best practitioners in this country; the surgeons have not made any particular improvements lately, except in the operations on the eye. Diseases of the eyes have been investigated with minute attention, and Beer and Schmidt at Vienna, are highly rated as expert oculists. Beer has gained great credit by his skill, in making an artificial pupil; and he has restored sight, in some cases, where, without such a nice operation, it was impossible to get any relief. On medical subjects, where so many readers are to be found, of course there will be a prodigious quantity of bad books; but there are some good ones published occasionally in Germany, and the custom-house officers allow both good and bad wares to be imported on paying the duties. We shall endeavour to select the most interesting, and, from time to time, give a sketch of the state of medical science on the Continent, by inquiring into the merits of the principal publications which acquire popularity there.

R.

PART II.

CRITICAL ANALYSIS.

I.

An Inquiry into the Seat and Nature of Fever; as deducible from the phenomena, causes, and consequences, of the disease; the effects of remedies; and the appearances on dissection. In Two Parts. Part the First; *containing the General Doctrine of Fever.* By Henry Clutterbuck, M. D. Member of the Royal College of Physicians. London, 1807. Boosey. 8vo. pp. 440.

The difficulty of the investigation, which Dr Clutterbuck has attempted, will be apparent, if we reflect on the myriads of writers who have, during upwards of two thousand years, successively exerted their talents in the same research, yet have left the subject questionable to the present time. It cannot then be a matter of surprise, if, notwithstanding the great mass of evidence the author has collected, with much industry and erudition, in favour of his doctrine, he should still fail to excite a general conviction of its truth among his readers.

The work commences with a series of physiological and pathological aphorisms, the object of which is to prove, that there is no such thing as an universal disease; that, in all cases, in which the constitution generally is disordered, some *local* derangement takes place primarily, of which the general disorder is a secondary effect. This being established, the author proceeds, in the second chapter, to shew, that the *local* and *primary* seat of idiopathic fever is in the brain.

The phenomena of fever, under its various forms of synochus, typhus, low nervous fever, yellow fever, the plague, &c. are described in quotations from Drs Fordyce, Huxham, Lind, and other writers of observation and credit, in order to shew, that indications of the primary affection of the brain, are observable in all modifications of general fever, which, the author contends, differ from each other only in degree. The changes in the state of the functions, constitute the principal of these phenomena; and of these, the *animal* functions are alone, he says, the source of the primary and proper diagnostic symptoms, as they are invariably deranged; whilst the *vital* and *natural* functions are sometimes unaltered, or affected irregularly in various ways, and therefore but secondarily. The constant pain of the head, and of the spinal marrow, which is a continuation of the brain; the affections of the organs of sense, and of the voluntary power; the derangement of some or all the faculties of the mind, which do not suffer in other great and fatal diseases; and, the *subsultus*, *muscæ volitantes*, &c. " point uniformly to the head as the chief seat of complaint." We cannot look to the general vascular system, the author remarks, for the primary seat of fever, since, in various cases, and in different species of the disease, the heart and arteries continue their functions unchanged.

With respect to the natural functions, however, and particularly the condition of the digestive organs, Dr C. cannot be considered as altogether successful in his attempt to exclude them from all share in the primary excitement of fever. It cannot be denied, that the derangement of the stomach is equally universal in fever, as the affection of head; the quotations from the learned physicians before mentioned, prove the one fact not less decisively than the other; and the mutual sympathy of the brain and stomach, is acknowledged by the author in strong terms. But " no affection of the stomach, *per se*," he says, " could occasion such symptoms as headach or vertigo, nor constitute the immediate cause of apoplexy or palsy; all these are manifestly affections of the brain, and its functions."—p. 71. Doubtless. But this appears to be getting rid of the question, not by solving, but by mis-stating it. We do not inquire whether the actual condition of the brain is changed in such cases; but, admitting the change in both organs, we ask whether the stomach or brain was *primarily* deranged. Let us reverse Dr C.'s proposition, and the opposite inference is equally deducible: " No affection of the brain *per se*, (be it inflammation or what not), could occasion such symptoms as nausea and vomiting; these are manifestly affections of the stomach and its functions;" in short, the question is, at which end of the sympathetic chain does the mischief begin? May it not commence sometimes at the one end, sometimes at the other? We do not recollect to have seen fever, in which the digestive organs did not suffer; but cases are not very uncommon, especially some of those which may be classed with the low nervous fever of Huxham, in which the powers of the stomach are completely abolished, while the head remains but slightly, almost imperceptibly deranged.

The author enumerates, in section Fifth, some other phenomena of fever, which he considers as indicating an affection of the brain. These are, the rigors, and the *petechiæ*, and *vibices;* which last, he attributes to " a torpid or nearly paralytic state of the extreme vessels, in consequence of which the blood stagnates in their extremities, or is poured out into the cellular membrane adjoining. This torpor indicates, as in other paralytic cases, a vitiated state of the nervous power." Dr C. concludes this section, by observing, that his doctrine is equally applicable to the exanthemata, or eruptive fevers, and to such as are attended with specific inflammation of certain parts, such as *cynanche maligna* and *parotidæa*, as to fevers strictly so called. Simple fever, therefore, intermittents, the various exanthematic fevers, and those accompanied with specific inflammation, have, in his opinion, one common primary seat; and he proceeds to shew, in the subsequent section, that all the remote causes, producing all the forms and modifications of fever, just alluded to, operate primarily upon the sensorium. The sum of his doctrine is expressed in the following passage:

> " It would seem, therefore, that besides the specific causes of fever, namely, the different contagions and miasmata, the mode of acting of which we are ignorant of, irritation of various kinds, mental as well as bodily, if in sufficient degree, may become the exciting or occasional cause of fever. But irritation, in order to its affecting the system generally, must operate through the medium of the brain, as the common centre of feeling, and the organ of the sympathy or consent, that obtains between different parts. The brain, thus irritated, will have its functions more or less disturbed from the natural and healthy state. The disturbance may be in every possible degree, and may manifest itself in different functions, depending perhaps upon predisposition, or other circumstances that we do not clearly understand. Sometimes the irritation is such, as to abolish suddenly the mental and voluntary powers, giving rise to epilepsy or convulsions, as is often the case in infants: the effect here is commonly temporary, and of short duration; sometimes it produces fever simply, the affection then becoming permanent, and observing a certain progress independent, as on other occasions, of the cause which first excited it."—p. 89.

Dr C. then adverts to some circumstances repecting the *predisposition* to fever, which seem to him to corroborate the idea, of the brain being the chief seat of the morbid affection. " It has been said, that idiots, maniacs, negroes, very old people, and likewise new-born infants, are less liable to fevers than others; and, that brutes never labour under proper fever." Now, as in all such instances, a defective or morbid condition of the brain, and, with it, of the general sensibility of the system, already exists, which renders them insensible to a variety of impressions, both internal and external; it is not surprising, the author remarks, that there should be, at the same time, very little susceptibility of fever from many of its causes. He then proceeds to state some of the *consequences* of fever, such as impaired organs of sense, paralytic and convulsive disorders, and other affections of the voluntary power, loss of memory, &c all which point out the brain as the seat of the morbid affection

But is there not much room for fallacy in this mode of reasoning? Are not the sequelæ of a disease often found at a distance from its primary seat? Shall we assert, that the proximate cause of an intermittent is an affection of the spleen, because we find that organ frequently disordered at the conclusion? Or shall we decide, that the primary seat of diabetes is in the kidneys, because those glands become soft and enlarged during that malady?

We are not perfectly satisfied of the philosophical precision of that sweeping inference, which refers to the same source, all those various phenomena which proper fevers, intermittent, and exanthematous fevers, and others arising from specific contagion, exhibit in their course. It is stating too much to say, that the brain, being the common organ and centre of sympathy, must necessarilybe the medium through which all irritation affects the system at large, because we thus include all symptomatic fevers whatever in one group. The observation might be theoretically just, but where is its practical utility? Must we direct our attention and our remedies to the common sensorium, in all instances of general disease? But surely the brain is sometimes the medium of irritation without suffering itself; sometimes it suffers only by sympathy, *i.e.* continues to suffer no longer than the distant irritation is applied; and sometimes it becomes so far affected, as to suffer derangement after the irritating cause has been withdrawn. The author appears to consider it as affected invariably in the latter way only. But numerous instances of the sympathetic affections of the head, which, though severe, have ceased on the removal of a distant irritation, must recur to the recollection of every practitioner.

Having traced the symptoms of fever to the brain, as their primary seat, Dr Clutterbuck proceeds to investigate the nature of the affection of the brain, from which those symptoms originate; and he maintains, that it " is either a state of actual inflammation, or at least, a condition nearly allied to it, as it contains the most essential characters of this affection."—p. 100. He points out a great analogy between the phenomena of fever, and those of inflammation; to both, the heat, pain, and throbbing in the head, increased sensibility, the furred tongue, &c. are common, and both are preceded by the same rigors, and reaction;

the blood is in the same state, exhibiting the buffy coat, often in both disorders, though it be not essential to either; the exciting causes are in both, in a great measure, the same; fever often alternates with inflammation, which proves the similarity of their nature; and the natural and artificial cure of the two diseases is alike in both, as are also the means of prevention. All these topics the author illustrates at considerable length, with much perspicuity; and his inference is, that fever "is nothing more nor less than a species of *phrenitis*, or topical inflammation of the brain."

He then compares the characteristic features of fever with those ascribed by authors to *phrenitis*, and shews, that the two diseases have not been accurately distinguished from each other, even by the best writers. The ordinary character of phrenitis, given by nosologists, is confessedly imperfect, and Dr C. contends, is applicable only to one, and that a rare form of the disease; and he quotes several respectable authorities to prove, that inflammation of the brain has been found, when none of the symptoms commonly ascribed to phrenitis have occurred; and, on the other hand, where there have been no other symptoms than those of common fever, inflammation has been found to have existed in the brain.

The author then proceeds, in a section replete with extensive and judicious reading, (as indeed is the whole of this volume,) to treat of the appearances on dissection: But here, he seems to be half conscious of a deficiency of facts in his favour; and this section is, in great part, an apology for the imperfection of our knowledge of the minute variations of structure in the brain, and for the insufficiency of the records of morbid anatomy, relative to fever. After quoting a few examples of suppuration, &c. in the brain, consequent on malignant fever, Dr C. adds the following observations:

> "A host of other instances might be adduced to prove, that fevers of all descriptions very frequently leave behind them visible topical affections of the brain, demonstrating the existence of previous inflammation in that organ. It is not, however, to be imagined, that the appearances now mentioned, are to be found in every case of fever. The essential part of this, as of most other primary diseases, consists, not in the altered structure of parts, but in perverted actions; change of structure is a remote effect, a consequence merely of the morbid action, and is what may or may not take place. Hence, if the disease prove fatal before such alteration of structure is induced, (which may be well supposed to happen with respect to an organ, upon the state of which all the functions of the system more or less immediately depend), few or no traces of the disease can be expected to be seen after death."—p. 174.

Here, we confess, we are unable to follow our ingenious author. Surely a change in the appearance of an inflamed part, is not a *remote* consequence. Inflammation, we apprehend, implies a necessary alteration of an organ sufficiently obvious to the eye, ere it can injure, certainly ere it can totally destroy, its functions. But if there are no appearances of inflammation, when the functions of the brain, and life itself, are annihilated, in what degree can we consider it as existing in the majority of instances, which run through a mild course? In the quotations from Dr Donald Monro, it is stated, that "the febrile matter is apt to fall on particular parts, and there to create abscesses, particularly in the *brain*, the *lungs*, and the *glandular* organs."—p. 172. Now this only shews, that inflammation and suppuration of various organs, sometimes one, sometimes another, is apt to occur in consequence of the general vascular action in fevers, or is a cause of them in different instances; and, as it is admitted, that such a circumstance is observed but now and then in the brain, as in those other organs, the most obvious inference is, that the inflammation of the brain is also a secondary consequence, or only occasionally a cause of fever. The author, we think, argues strongly in favour of this notion in the continuation of the passage just quoted.

> "The intermissions of fever, during which patients often enjoy an almost total exemption from disease, and the speedy return to perfect health, after their cure, prove that no great derangement of structure can have taken place. That fever does not *necessarily* kill by destroying the organization of the brain, is shewn also, by the return, in some few instances, of the mental faculties, a short time before death, where delirium had been present throughout the previous course of the disease."—p. 175.

Where is the analogy between these phenomena and the symptoms of fatal inflammation in other important viscera? Do the lungs, in a fatal peripneumony, ever admit of an interval of free respiration; or do the intestines, in a mortal enteritis, perform their functions, but for the shortest period, near the close of the disease? And what other organ has its functions destroyed, at one time by a degree of inflammatory action, where there is no perceptible distention of vessels (if that be not a solecism), and at another only by actual disorganization? Dr C. appears to have not altogether avoided the great error of less cautious and more visionary theorists, who consider the evidence, which is in favour of their doctrine, as proving a great deal; but explain away, with facility, the facts that stand in opposition. The decided marks of inflammation in the brain, observed in some patients destroyed by fever, greatly strengthen the author's belief that such inflammation is the universal cause of fever; whilst the absence of all such marks, in many other instances, is not allowed to prove any thing but the imperfection of our senses. Thus also, he admits Dr Donald Monro's evidence in proof of inflammation of the brain, but takes no notice of that of the lungs and the glandular organs, upon which, also, according to Dr Monro, the "febrile matter is apt to fall."

Dr C. next details the opinions of the Greek and Arabian physicians, as well as of the modern theorists, down to Home and Cullen, respecting the nature and seat of fever, among which nothing but contrariety is to be found; and in the following section he determines the nosological place of the disease to be properly among the *phlegmasiæ*, under the denomination of *encephalitis*. The term phrenitis he deems objectionable, as it is expressive of delirium or alienation of mind, which, though a very frequent, is not a necessary nor constant attendant on fever.

He then discusses, at great length, in thirteen sections, the nature and effects of the different modes of cure, as they relate to the doctrine of the preceding pages. Our limits will not allow us to follow the author through this very able and comprehensive discussion, which cannot be read without advantage. The work is concluded by a brief recapitulation of the doctrine, and of the arguments in its support.

Although we may not be disposed to surrender our conviction altogether to the doctrines of Dr Clutterbuck, we must allow him the credit of having supported his theory by great strength of evidence, and to have evinced an acute spirit of investigation, as well as considerable medical erudition. Had we never witnessed the various phenomena of fever, we should, perhaps, have risen from the perusal of this volume, satisfied of the truth of the opinions which it contains. But we cannot call to our recollection the general variety of those phenomena, and consider them as originating in one common source, and that inflammation of the brain. Not to mention the want of analogy between the cessations and returns of intermittent fevers, and the symptoms of any visceral inflammation; nor the variety of regular forms, which the exanthemata, and fevers from specific contagion assume, which seem to point to a difference of proximate cause; even in the common fevers of this country, there appears to be a variety of modification, which we are not warranted, either by observation or analogy, in attributing to the one source alluded to; and some circumstances occur in them all, which do not exactly accord with the notion of inflammation. Thus, we sometimes see fevers linger on several weeks, with scarcely any other symptom than loss of strength, impaired digestive power, and quickened circulation. On the contrary, we occasionally observe a noisy and watchful delirium, like that of intoxication, which shall terminate at once in a few days, perhaps in a short sleep, and no febrile symptoms remain. Even in those severe cases, where every mark of congestion in the head occurs, and the patient sinks with ferrety eyes, subsultus tendinum, and stupor, how often do we see the free use of stimulants speedily rouse him to complete sense, and a considerable degree of strength; nay, even spontaneously the functions of the brain shall be restored, a short time previous to the fatal conclusion. Some of these appearances seem to be referable rather to the stomach than the head; and others, especially the periodical returns, and the sudden changes and intervals of sanity, are more analogous to what we denominate nervous disorders, *i.e.* to those phenomena in the sensorial and voluntary powers, which are unconnected with inflammation, or, in many cases, with any obvious physical change. There cannot, indeed, be a doubt that the sensorium is disordered in these cases, and that this disorder is even the essential source of some of the symptoms; but it may, nevertheless, not be the essential cause of the disease. In intoxication, for instance, the brain is disordered, and this gives rise to the hurry of thought, loss of muscular powers, &c.; but the primary seat of the disease is the stomach. Dilute or evacuate its morbid contents, and the functions of the brain are speedily restored. Here is not inflammation; for inflammation goes on independently of the exciting cause; and although it may be contended that there is "a condition nearly allied to" inflammation, the practical indication must, nevertheless, be directed to the stomach. It may be added, too, that we frequently see patients labouring under low fever, who perish from congestion in the lungs; as in the *pneumonia typhodes;* and dissections have shewn the appearances of inflammation in other organs, under similar circumstances with respect to the fever.

Dr Clutterbuck concludes by stating his hopes, that he will be able to bring forward still more satisfactory evidence of the truth of his doctrine, in the second part of his work. We should be well pleased if he could decidedly shew, that fever is always connected with inflammation in any viscus; as it might tend to convince the great number of routine practitioners, who never hear the name of fever without prescribing wine and bark, at whatever period of the disease, of their mischievous error.

II.

Researches, Anatomical and Practical, concerning Fever, as connected with Inflammation. By THOMAS BEDDOES, M.D. 8vo. Pp. 256. Longman & Co. (No date.)

AFTER we had concluded our observations on Dr Clutterbuck's elaborate work, this treatise of Dr Beddoes came into our hands; and as it appears to be, though it is not avowedly, an attempt to confute the doctrines of Dr C., we shall subjoin a brief account of it. Our author remarks, that although typhus, synochus, nervous, malignant, yellow, spotted, and other fevers, have been called idiopathic or independent, yet they have at all times been observed to be attended by inflammation, particularly when protracted or violent. The affirmation of Riverius, " febres acutas et malignas rarissimè sine visceris alicujus inflammatione incidere," has been confirmed, he says, in every single epidemic where search has been made, and often without search. Dr Beddoes shews that the notion of inflammation of the brain constituting the proximate cause of fever, was adopted by Rhumalius of Nuremberg, 1624; by Dr Marteau de Granvilliers in France; by Dr Wendelstadt of Wetzler in 1794; and still more recently by Dr Ploucquet, professor at Tubingen; between whose doctrine and that of Dr Clutterbuck, " the coincidence of exposition is such, that the English may often seem a diffuse translation from the Tubingen professor;" and Dr B. fills sixteen pages with a parallel of particular propositions, as stated by the two theorists. Doubtless, however, Dr C. was altogether unacquainted with the doctrines of the German. A long account is then given of the observations on dissection, made during a variety of epidemics on the continent. Congestion, or some other morbid appearance, was frequently observed in the brain, or its membranes; but abscesses, gangrene, or other marks of inflammation, were not less frequently found in the viscera of the thorax and of the abdomen, especially in the stomach and the liver. One writer remarks, that " the alterations in the abdominal viscera were the only ones that can be considered as the direct and immediate product of the essential morbific causes." Another, an American, after observing that the brain was *generally* found in a diseased state, affirms that the stomach was *always* diseased. In short, from an extensive collection of evidence, Dr Beddoes infers, that, " in idiopathic fever, the stomach and contiguous parts have been found more constantly and more deeply affected with inflammation than the brain and its membranes."—P. 63. Several individual instances are then adduced, in which the brain was observed to be perfectly sound, although the head had been greatly affected, and the stomach and intestines were coated with an effusion of lymph, or were gangrenous.

Our author proceeds to mention several facts tending to shew the general inflammatory disposition of the system in fever, and the facility with which it is transmitted from one part to another, especially to predisposed organs; and he quotes the observations of several authors, to prove that inflammation attacks the organs at different periods of the disease; and that, in the late origin of local inflammation, the head suffers exactly as other parts. The more precise conclusion which he draws, respecting the connection of inflammation with fever, is, that "in whatever organ this process may be detected, its symptoms appear, at all stages of the disease, alike; nor does the head offer the smallest peculiarity in this respect."—P. 111.

It is very true, Dr Beddoes remarks, as Doctors Ploucquet and Clutterbuck agree in affirming, that fever consequent upon injuries of the head, is not to be separated by any line of distinction from typhus or idiopathic fever. "But does the opinion then, which they have conceived, hinder them from perceiving that this may likewise be asserted of injuries of other parts, and of poisons?" Surgical accidents of other parts, as well as of the head, are occasionally accompanied by symptoms so like those of continued malignant fever, that the want of success has been attributed to the supervening fever. "The general fact may be seen, (says Dr B.), wherever there are persons lingering under mortal injuries, wheresoever received."

Dr Beddoes then dwells, with much strength, upon some analogical considerations, especially relating to hydrophobia, after which disease, as is shewn from a variety of dissections, the appearances in the dead body are at least as various and uncertain, as they are found to be after fever; the signs of inflammation in some part or other being equally common, but by no means fixed, and sometimes absent. Hydrophobia, then, has as good a title to be deduced from inflammation of the brain, as fever. "But here comes the misfortune," says our author, "symptomatology and morbid anatomy, applied just in the same way, will oblige him (the theorist) to make an *encephalitis* also out of several others among the neuroses. And thus shall he be forced back to the old common-place notion, which, in fact, is an avowal of profound ignorance, scarcely disguised; namely, that in these disorders, the condition of the sensorium differs from its condition in health."—P. 130.

He next shews, from several facts relative to the sensorial functions, that pain and inflammation are, by no means, convertible terms; and that pain and disordered functions do not necessarily imply inflammation. Delirium, with pain of the head, is no more a *general* proof of inflammation in the head, than vomiting, with pain, is of inflammation in the stomach. Of the mode of action, in which delirium consists, we know nothing. Dr B. relates several cases in which the most violent phrensy was excited, and removed suddenly, and he justly affirms that inflammation does not instantaneously come and go, in any degree correspondent to the disorder of the sensorial functions, as phrensy in those cases. He then states the argument which we have already noticed, respecting intervals of rationality. "The return of recollection for a short space, the breaking out of the perfect mind in the intervals of delirium, like that of the full sun amid a succession of thunder storms, is a striking appearance in fever." "We have no instances where an *inflamed* stomach or intestine resume their digestive powers and peristaltic motion just before they sphacelate." He concludes, therefore, that these phenomena depend upon processes more subtle and mutable, "in which metastasis can take place as suddenly as the electric influence shifts on the interposition and separation of negative and positive objects."

Adverting to the fluctuation of opinion and practice in regard to fever, Dr Beddoes condemns, with some asperity, the modern doctrine of the schools, which deduces all the symptoms of fever from debility, and prohibits altogether that powerful remedy, which our ancestors concurred in praising, viz. blood-letting. We coincide with our author, to a considerable extent, in this stricture; being satisfied from experience, that the doctrines of debility and stimulation have inculcated a fear of evacuations, which is not justified by fact. But want of discrimination may be not less prejudicial in the adoption than in the omission of blood-letting; and we cannot help thinking that Dr B. is not altogether guiltless of such a charge, when he says, "Having shewn by superfluity of evidence, though much might be added, that in violent fever, whether foreign or domestic, whether yellow or of a different hue, *we have a right to assume* inflammatory disposition in the abdominal viscera, I propose the earliest application of leeches to that region. They should be laid on by *relays of dozens*."—P. 185. He does not attempt to state the circumstances which render bleeding, whether from the temporal artery or jugular vein, or the arm, advisable; but, upon the whole, recommends it in vague and general terms.

As substitutes for blood-letting, when it is deemed inadmissible,

sible, the circular swing, as it has been improperly called, the continued application of cold, and the digitalis, are mentioned, and slightly discussed.

We have thus endeavoured to state briefly the points of the arguments of Dr Beddoes: the evidence in favour of which must be sought in the volume itself. The connection of fever with inflammation is illustrated by a considerable mass of authorities, which have been overlooked by Dr Clutterbuck; but the inflammation is here shewn to exist as frequently in the other viscera, as in the brain. The fact, that this connection subsists,—that fevers were formerly healed, and, in warm climates, are still healed successfully, by an evacuating system,—demands our consideration; and should at least operate as a caution against the adoption of a cordial treatment, in the early stages of the comparatively mild fevers of this country, which routine too frequently sanctions. These counter-authorities and opposing facts tend but to leave us in our original ignorance as to the essential nature and seat of fever.

III.

The Works, Literary, Moral, and Medical, of THOMAS PERCIVAL, *M. D. F. R. S. &c. &c. To which are prefixed, Memoirs of his Life and Writings, and a Selection from his Literary Correspondence.* 4 vols. 8vo. London, 1807.

THESE works were published before the commencement of our Journal, and therefore do not properly come under the class of new publications, yet we notice them briefly, because they were at one time very much admired, and are supposed to form a sort of era in the history of medical literature. The two first volumes contain the life of the author, written by his son, his miscellaneous writings for the instruction of youth, and his medical ethics. The third and fourth volumes contain medical, philosophical, and experimental essays, and some detached pieces, written on various occasions, and inserted in different periodical publications. In a new edition, as this is *said* to be, some new matter is usually expected; and we were surprised at not finding some additional essays or practical observations, the result of the learned author's mature experience, till, on turning to the title-pages, we discovered a difference of almost twenty years in the dates between the two first and last volumes, and find they were printed at different places. It is not so much to complain, that we point out this bookseller's trick, as to caution those who possess Dr Percival's essays, against buying a duplicate of that work. The biographical memoirs should have been published separately.—The character given of our English naturalist, will apply in an eminent degree to the amiable author of the works before us. Dr Percival was a man of calm philosophic turn of mind, fond of intellectual pursuits, and attentive to every object around him; his moral and religious feelings were constantly excited in the contemplation of Divine power; and he was no less distinguished for his goodness than for his literary attainments. On most of the philosophical subjects which engaged his attention, so much new light has been thrown by subsequent inquirers, that his experimental essays have lost their pretensions to novelty; they are not to be considered as chemical analyses in the days of Wollaston and Vauquelin, but were valuable in the first dawn of such researches in the time of Priestley and Pringle. The essays are none of them long and systematic compositions; they were composed in a desultory way in the intervals of professional employment; and, as the subjects were suggested by the inquiries of others, so they may, in their turn, furnish hints for future experiments, and still further aid the progressive advancement of medical science. His observations on medical subjects are not reduced to any regular form, they are put down as they offered themselves to his notice, in ordinary practice, and related, with all the ease of epistolary intercourse, in a simple and plain style. The "Medical Ethics" is a compendium of advice to his son; it was intended as a paternal legacy to one of the author's sons, who died when he was about to engage in the profession; it is well calculated to fulfil the laudable object, to point out the proper conduct to be observed by physicians and surgeons, and to recommend that behaviour which is established by universal consent amongst men of enlightened minds and liberal manners. Some pleasing extracts might be made from the account of his life, so ably drawn up by his son; but we have made use of these materials in the biographical sketch, inserted in another place, and have only to express here the satisfaction and pleasure we feel in contributing our humble share of praise, to record the virtues and talents of a man like Dr Percival.

IV.

The Climate of Great Britain; or, Remarks on the Change it has undergone, particularly within the last Fifty Years; with the Effects such Ungenial Seasons have produced on the Vegetable and Animal Economy. By JOHN WILLIAMS, Esq. 8vo. London, 1807.

HIPPOCRATES, in his treatise "De Aere, Aquis et Locis," strongly insists upon the importance of geographical and topographical knowledge to every practical physician; and his precept and example, independent of more modern authorities, must awaken curiosity to any account of the climate of our native country. The peculiar principle advanced by Mr Williams is this:

> "I attribute (says he) the humidity, and consequently coldness of our modern summers, to the increased evaporating surface, caused by inclosing of open fields and wastes; the multifarious intersections of them by fences, especially with hawthorn; to the increased luxuriance of our crops, by a general system of improvement in the agriculture of the country: To these I may, with propriety, add the late increase of pasturage, productive of serious disproportion between that and tillage; to the numerous plantations, more especially of foreign trees, and such whose exhaling power is prodigiously great; and the immense bodies of nearly stagnated water in the numerous canals that have been cut within the assigned period."—P. 15.

He quotes William of Malmsbury and some other evidence, to prove that the *vine* was successfully cultivated in former ages; and he assumes the coldness of our summers to be the cause why vineyards are no longer regarded. But this is a poor substitute for a series of thermometrical observations to show the average annual temperature, particularly as he fails to show, that other species of plants, either growing spontaneously, or placed in any district by art, now cease to vegetate where they formerly flourished.

To prove the gradual increase of cold and wet weather, he says, that the evaporating surface of this kingdom, exposed to the influence of the sun and air, is much greater at the present time than it was some centuries past; and he endeavours to estimate the comparative evaporating power of different plants, by separating the leaves from trees with their footstalks, and weighing them at different periods after exposing them to the air! The number of new inclosures within these thirty years is sufficient, in our author's opinion, by itself, satisfactorily to account for the increased coldness and humidity of our summers since the year 1770.

One of his chapters is devoted to the consideration of the influence of a cold humid climate on the animal economy. Here Mr Williams confesses he has never studied medicine as a science, and, therefore, does not presume to think he can offer any thing new. What he says about *our national plague*, the pulmonary consumption, and his railing against fashionable stoves, warm rooms, and thin clothing, is enough to satisfy any one of the truth of this confession. The remarks on the effects of heat and moisture are important, but tend in no degree to confirm our author's hypothesis of the unhealthiness of Great Britain, in consequence of the late supposed change in the seasons. The unhealthiness of some of the West India islands, and the neighbourhood of Batavia, in the island of Java, is owing to the heat, combined with a humid atmosphere; and Europeans only suffer from the climate of Hindostan, and of other settlements in the East Indies, during the rainy seasons. It is a curious remark, yet true, that moist seasons in England are the healthiest. Nothing is more common than to hear complaints of the weather, and lamentations over the unhealthiness of our country, as if we were most unfortunately situated, and as if pulmonary consumption was unknown in every part of the world except Great Britain. There seems to be very little reason for such grumbling. If we examine other climates, few will be disposed to change the cloudy land we live in for the scorching summers of other islands, or the cold winters of continents. The diseases occasioned by cold and moisture are to be guarded against by proper clothing; and no people ought to stay at home in houses built for the temperature of Russia, and then walk out in a dress fit only for an Italian sky. Complaints of the change of climate have been made in every country and in every age; like the race of men, the fine weather is always said to have degenerated, so that, whilst we listen to a "laudator temporis acti," it is pleasant to reflect, how often such comparisons have been made, and with how little foundation. Some changes have taken place in some situations, as in Germany for instance, since the time of Cæsar and Tacitus, but that is from a cold to a milder atmosphere, and by those very means which Mr Williams accuses of spoiling the warm summers of England. In the time of the Romans, the river Rhine was frequently frozen completely over, which seldom happens now; the elk and the rein-deer inhabited the woods, but these now only begin to be found at 62 degrees of latitude in Europe, which resemble, in their mean temperature, what Germany was about fifteen hundred years ago. Notwithstanding the alleged uncertainty of the weather in Britain, it is not so inconstant as in Prussia or in Austria—the vicissitudes are not so sudden, the extremes of heat and cold not so great, and the diseases arising from changes of temperature are not more frequent at London than at Berlin or Vienna. The making of wine, which is so much insisted on, is by no means proved; it might have been from the juice of the apple, not from the grape, and the vintage probably was so bad, and so often failed, that wines were sought for abroad, because they were so far superior to what could be manufactured at home.

V.

Letters from England. By DON MANUEL ALVAREZ ESPRIETTA, Translated from the Spanish. 3 vols. 12mo. London, 1807.

WHEN a party of men have engaged to keep a stage-coach, they are obliged to set out at the appointed time, whether there be passengers or not: thus it fares with us periodical historians; and, amidst the good and the bad that we are obliged to register, it is a great relief to meet with a lively and amusing companion. These *Letters* are very entertaining on many accounts, but we notice them in this place, because some of them are devoted to the history of the credulity and superstition of the English in regard to the cure of diseases. The author has fixed his eye upon superstitions of every kind; and his sentiments about medical quacks coincide so much with our own, that no apology need to be offered for giving some abstract of his remarks, with a few comments suggested by them. It is right to confess, that we are not such true Catholics as to believe every thing said in the title-page; the acuteness and originality of the observations upon our national manners, mark the writer to be a native, nor is the Spanish cloak sufficient to conceal the English coat.

Lady Mary Wortley Montagu, in one of her admirable letters, has accounted for the extraordinary facility with which her countrymen are duped by the most ignorant quacks, very truly and very ingeniously. "The English," she says, "are more easily infatuated than any other people by the hope of a panacea, nor is there any other country in the world where such great fortunes are made by physicians. I attribute this to the foolish credulity of mankind. As we no longer trust in miracles and relics,

lics, we run as eagerly after receipts and doctors; and the money which was given, three centuries ago, for the health of the soul, is now given for the health of the body, by the same sort of people, women and half-witted men. Quacks are despised in countries where they have shrines and images." True it is, that medical quacks do not flourish in Catholic countries; the business of superstition is there entirely in the hands of the priests; and the comparative poverty of the people prevents them from applying to any but saints and relics for the exercise of their faith and hope in most diseases. The governments of those countries facilitate the acquisition of medical knowledge, by establishing schools in different parts of the kingdom, and prevent the people being duped by ignorant and wicked pretenders, by arresting all those who publickly set forth their false pretensions.

"In England," says Espriella, "there are a thousand facts to verify the remark of Lady Wortley. The boasted knowledge of England has not sunk deep; it is like the golden surface of a lackered watch, which covers, and but barely covers the base metal. The great mass of the people are as ignorant, and as well contented with their ignorance, as any of the most illiterate nations in Europe; and even among those who might be expected to know better, it is astonishing how slowly information makes way to any practical utility. In domestic medicine, for instance, a defluxion is here called a cold, and, therefore, for its name's sake, must be expelled by heat. Oil is employed to soften a hard cough, and lemon juice to cut it; because, in English, sourness is synonymous with sharpness, and what is sharp must needs cut. The abracadabra of the old heretics was lately in use as a charm for the ague, and probably still is, where the ague is to be found, for that disease has almost wholly disappeared within the last generation."

Our author has been misinformed about intermittents, if he understands that they are become so extremely rare. They prevail less frequently than formerly, in consequence of improved cultivation of grounds, and greater attention to warmth and comfort, in the houses and dress, and mode of living among the poor, but they still occur, in every situation, in certain seasons, and in marshy districts they are found every year. This last summer and autumn, intermittents have appeared, without any apparent cause, unusually common in dry and highly situated towns, where they are in general seldom met with.

"For warts there are manifold charms. The person who wishes to be rid of them takes a stick, and cuts a notch in it for every wart, and buries it, and as it rots the warts are to decay; or he steals a piece of beef and rubs over them, and buries it in like manner; or stealing dry peas or beans, and wrapping them up, one for each wart, he carries the parcel to a place where four roads meet, and tosses it over his head, not looking behind to see where it falls; he will lose the warts, and whoever picks it up will have them. But there are gifted old women who have only to slip a thread over these excrescences, or touch them with their saliva, and they dry away." Letter L. Vol. ii.

The author conjectures, that we are indebted to the Jews for the vulgar belief of the divine origin of the healing art. They will have it, that Adam had an intuitive knowledge of medicine, and that Solomon's book of trees and herbs was written by inspiration. The founder of the Quakers was near practising physic for the good of mankind, as he says, from a similar cause; he fancied himself in the same state as Adam before the fall, and that the nature and virtues of all things were opened unto him. John Wesley went even beyond this enthusiast, fancying himself chosen to restore medicine as well as religion, and to prescribe both for body and soul, like St Luke; he published what he called Primitive Physic, which is a precious collection of old women's receipts, some capable of doing neither good nor harm, but others of a dangerous nature. His work went through twenty-one editions, and was read, and no doubt trusted in the 18th century.

Any scientific discovery is immediately seized by some of the numerous adventurers in this country, who prey upon the miseries and the follies of their fellow creatures. The most eminent quack of the last generation was a Doctor Graham, who tampered with electricity in a manner too infamous to be reported, and for which he ought to have received the most exemplary public punishment. This man was half mad, and his madness at last, contrary to the usual process, got the better of his knavery. His latest method of practice was to bury his patients up to the chin in fresh mould. This he called earth-bathing, and the operation lasted four hours: his patients suffered, as might be seen in their countenances, intensely from cold for the first two, during the third they grew warmer, and, in the last, perspired profusely.

Galvanism and oxygen are applied to the purposes of quackery, and the newspapers afford the means of making known the various properties and cures ascribed to those remedies, which are administered under many forms, and boasted of with endless perseverance. At the conclusion of the second volume, the author gives a full account of the theory of animal magnetism, which was put a stop to in France by the joint authority of the church and state, but had its fair career in England. He gives an abstract of the celebrated Mainauduc's lectures, and quotes the extraordinary and daring expressions employed by that enthusiast, and explains the effects which were produced by his pretending to possess a power over the bodily functions of others in the following manner:

"If we direct our attention to the involuntary operations of life within us, they are immediately deranged. Think, for a minute, upon the palpitation of the heart, endeavour to feel the peristaltic motion, or breathe by an act of volition, and you disturb those actions which the life within us carries on unerringly, and, as far as we can perceive, unconsciously. Any person may make the experiment and satisfy himself. The animal magnetists kept up this unnatural state of attention long enough, by their treatment, to produce a suspension of these involuntary motions, and consequent insensibility."—p. 397.

There is another species of quackery which this intelligent observer has not noticed, and that is, a refinement upon the vulgar custom, of advertising by books instead of booths, and by pamphlets and circular letters instead of hand-bills. Mock-doctors of this description are becoming very rife among us: their arts for arresting the public attention do not escape detection; and although they may publish with taking titles, it is our duty, and shall be our earnest endeavour, to expose their detestable machinations. Herodotus speaks of an eastern nation, among whom it was a law, that, whenever any cure was performed, both the method of cure, and an account of the disorder, should be fixed in some public place; but, as customs will corrupt, our modern quacks provide themselves with patients before they publish, and they manufacture a list of cases and cures before any trial has been made of their prescriptions. To take away faith, and the hope of finding relief even in incurable diseases, would be to destroy the staff of the afflicted man's support, but to put an end to imposition, and to make way for modest merit, and well-founded expectation, is worthy of every honest man's ambition.

VI.

Medical Reports of Cases and Experiments, with Observations, chiefly derived from Hospital Practice, to which are added an Inquiry into the origin of Canine Madness; and Thoughts on a Plan for its Extirpation from the British Isles. By SAMUEL ARGENT BARDSLEY, M. D. M. R. M. S. Edinburgh, and M. S. London, and Physician to the Manchester Infirmary, Dispensary, Lunatic Hospital, and Asylum, and Vice-President of the Literary and Philosophical Society at Manchester. London, 1807. 8vo. Pp. 336.

LARGE and well regulated hospitals form unquestionably the best schools of practical medicine; and if the hospital physician possess the talents of observation, discernment, and judgment, he cannot fail to improve and enrich the science he professes. Excellent opportunities are afforded him for clearing up doubtful points in the history of diseases, and for ascertaining the value of different modes of cure. It is happy when those opportunities are enjoyed by one capable of turning them to account, and of preserving to science the fruits of his observation and experience. The author of the Reports before us has enjoyed the advantages of extensive hospital practice, and now submits to the public a part of the fruits of his observations, during a period of sixteen years, at the Manchester infirmary. Dr Bardsley professes himself an ecclectic. He appears to be a judicious and observing physician, every way qualified for the task he has undertaken; and, we sincerely hope, that he will continue these useful labours, and persevere in his intention to select, for publication, a series of clinical reports on some other diseases, chronic as well as acute, which have more particularly fallen under his observation. For we cannot doubt, that every attempt to add to the stock of practical information will meet with the most favourable and encouraging reception.

The subjects of the reports contained in the present volume are, chronic rheumatism,—two cases of a singular affection of the calves of the legs,—diabetes mellitus,—experiments on diabetic urine,— the effects of galvanism in paralysis,—effects of oxyd of bismuth; and, observations on canine and spontaneous hydrophobia.

I. *Chronic Rheumatism.* The history and general treatment of this disease being sufficiently known, our author has confined himself to a statement of the general result of his practice, which has been very extensive, as chronic rheumatism, in all its varieties, is of very frequent occurrence among the labouring and manufacturing poor of Manchester. Every provision has been made at the hospital for a successful treatment of the disease, by the institution of vapour and warm baths, both for general and local purposes, an electric and galvanic apparatus, and comfortable appropriate wards.

Under the term chronic rheumatism, Dr B. includes "such painful affections of the muscular fibres, membranes, and joints, as are unattended with fever, specific virus, or peculiar derangement of the stomach and bowels; and which are seldom accompanied with external tumor or inflammation, but are very liable to shift suddenly from one part to another, and are readily propagated along the course of the membranes and muscular fibres." And this definition, he thinks, will include chronic lumbago, sciatica, and nodosity of the joints. For our own part, we do not think this definition a very useful or important one. Chronic rheumatism is often accompanied with derangement of the stomach and bowels; external swelling is by no means uncommon in this disease; and nodosity of the joints seems rather excluded than included by the definition.

Though the practice in chronic rheumatism must necessarily be regulated by circumstances, it consists generally, according to our author, " in removing passive inflammation, and restoring debilitated vessels and muscular fibres to their due tone and action. These ends," he adds " are chiefly to be accomplished by topical applications, although internal remedies are by no means to be neglected."

The principal topical remedies, are warm and vapour baths; electricity and galvanism; topical bleeding and issues; blisters and rubefacients.

With regard to *warm* bathing, he observes, that experience soon corrected his too sanguine expectation.

In protracted pains of the larger joints, as in sciatica and lumbago, with local and general debility, it was evidently hurtful. In more recent and shifting pains, infesting the muscles and membranous coverings, a moderate use of the warm bath proved highly serviceable: If it did not soon relieve, it was observed uniformly to protract recovery. The *tepid* bath, from 84° to 90°, was generally found an useful auxiliary in relieving pain, relaxing stiffened joints, and rigid fibres, especially in elderly patients. But both warm and tepid bathing are represented as remedies of very inferior value to the topical use of hot water in the form of vapour. In rigid and immoveable joints; in contracted and almost paralytic states of the muscles; in protracted lumbago, sciatica, and hip-case, the local vapour-bath was found a safe and often successful remedy. The apparatus for the local vapour-bath consists of a boiler, from which the steam is conveyed through pipes, which may be conveniently applied to any part of the body.

Electricity has been much employed by Dr. B in obstinate rheumatic complains. It was found of great service where the muscular fibres were torpid and rigid, and there was a diminution of vital heat. Its effects are more powerfully and beneficially exerted when used in conjunction with the topical application of vapour. His general plan is, " first to order the diseased parts to be exposed to the action of vapour; and, during this operation, a stimulant liniment to be diligently rubbed upon their surface; and finally, the application of electricity." He has also employed *galvanism* in some cases with advantage; but he has not succeeded with it in any instance where electricity had failed.

Topical bleeding and issues. Where the ligaments and membranes of the joints are the peculiar seat of the disease, or an enlargement of the extremities of the bones has taken place, the first attempt at relief, especially in young and vigorous subjects, should be directed to local bleeding, either by leeches, or what is preferred, the operation of cupping and scarifying. When the pain and irritation are abated by repeated bleeding, no time should be lost in securing a drain from the part by the aid of issues. After numerous comparative trials, he gives the preference to caustic, for the purpose of establishing an effectual drain. This practice he has found particularly serviceable in hip-cases of long standing, and in very obstinate cases of sciatica. The number of issues must be proportioned to the severity of the disease: "I have seen," says he, "in a hip-joint case, three of these artificial openings succeed when two have failed."

Blisters and Rubefacients. Much relief was obtained from blisters, when pains affected only the fascia and superficial fibres of muscles; but they were frequently found more beneficial when applied at a distance from the pained part. Thus, in recent and slight sciatica, a blister proved speedily and certainly useful when applied to the inferior extremity of the thigh bone; "Indeed, wherever the complaint seized upon any of the larger and deep-seated muscles at their origin, near the joint, the mode of applying blisters to the inferior extremities of such muscles, and near to the points of their insertion, was found to be highly beneficial."

Rubefacients are useful in relieving pain, and sometimes entirely remove slight instances of chronic rheumatism. When the pains were local and permanent, and not very severe, great advantage was obtained from warm plasters. Wherever the disease left a thickening of the integuments, and rigidity of the tendons and ligaments, a stimulating epithem, prepared from gum ammoniac, dissolved in squill vinegar, was attended with good effect. Of all the liquid rubefacients, the following is thought the best:

℞. Liniment. saponis. ℥ij
Aquæ ammoniæ }
Tinct. cantharid. } *āā* ʒji
——— opii }
G. Camphor. ʒi M. ft. Linimentum.

In almost every instance where the local vapour was employed, but especially in sciatica and lumbago, this liniment was diligently and plentifully rubbed in upon the parts, while they were exposed to the vapour-pipe.

With regard to *internal remedies*, Dr B. observes, that he has met with much disappointment. In a few examples only, but those of an important kind, internal remedies have singly completed the cure of very severe and obstinate cases.

In recent cases, where the disease was general, and attended with violent pain, and occasional pyrexia, much advantage was derived from moderate sweating, but if carried too far, the pains were aggravated. " In short," he continues, " I can speak decidedly of the injurious effects of sudorifics, when pushed to any great extent, in every instance of severe local affection of the joints ; and also in most other cases where the disease has been long continued, and the patient's constitution much debilitated." Nor was sweating found more useful in chronic lumbago and sciatica. Small doses of antimony and calomel, with opium, were useful in allaying pain and irritation, and in palliating symptoms.

Guiacum in large doses was found a powerful auxiliary in aggravated cases of general chronic rheumatism, where torpor and debility prevailed. It was exhibited, with most effect, in substance, well triturated with mucilage. In many obstinate cases, the ammoniated tincture of guiacum, joined to a strong decoction of bark, proved of great service. The Peruvian bark was, in most protracted cases, prescribed advantageously as a tonic, especially at the close of the disease : But Dr B. has seldom used it with any other design, than as an auxiliary. Turpentine was found ungrateful to the stomach, and even when persisted in, not productive of much good.

The *cod-liver oil* is a remedy of great reputation in Lancashire ; and, for thirty years past, has been much used in the Manchester Infirmary. It is a remedy which from long and repeated experience, is spoken of by our author as one of efficacious, but of limited powers ; sometimes it has operated in a manner so decidedly beneficial, as to excite astonishment, though it has frequently failed in mild and more common rheumatic affections.

> " The circumstances under which I have found it most advantageous, when used both externally and internally, are the following : 1st. In chronic rheumatism of elderly persons, where the muscles and tendons have become rigid, and the joints nearly inflexible, in consequence of the disease having been brought on by excessive labour, hard fare, dampness, and cold. 2d. In women whose constitutions have been worn out by repeated rheumatic attacks after parturition, and more especially in the decline of life. I have seen a few patients recover entirely by the exhibition of the oil, who, on their admission into the house, were unable either to preserve the body in an erect posture, or support its weight on the lower extremities."

The cod-liver oil is a nauseous remedy, but patients become accustomed to it, and they are observed to increase in bulk and fatness from its use: The dose is from half an ounce to an ounce and a half, twice or thrice a-day; sometimes it acts on the kidneys, sometimes on the bowels, and in some cases on the skin, giving rise to eruptions, but it does not, of itself, excite sweating. If, in the course of a fortnight, it do not produce any abatement of the pain or rigidity, it is in vain to persist solely in the use of this remedy. In serious affections of the large joints, it is necessary to join with it the local application of vapour and electricity. Upon the whole, as an internal remedy, Dr B. thinks it inferior, in many respects, to the guajac, although it exceeds that, and most other medicines, in the relief and cure of such peculiar states of the disorder as have been described.

Arsenic is another remedy, the efficacy of which, in chronic rheumatism, was first discovered by Mr Jenkinson of the Manchester Infirmary. Dr Bardsley was induced to give it a trial, and the results bespeak it a remedy of very considerable power. Two cases, which are detailed, would lead us to augur very favourably of what may be expected from a judicious use of this very active mineral. From the limited experience which our author has had of it, he is disposed to infer, that it is only in the protracted chronic rheumatism, where the vital powers are much diminished, and the ends of the bones, periosteum, capsules, or ligaments of the joints, are likewise partially affected, that the use of arsenic is likely to prove eminently useful. Its efficacy in such instances, however, seems indisputable; and it is the intention of Dr Bardsley to prosecute his inquiry, with the view of ascertaining more fully the extent of the application of arsenic in other modifications of chronic rheumatism. We have lately been informed, however, that arsenic has, for some time past, been employed with great success in obstinate rheumatic cases, by a physician in Dumfries-shire; and we hope soon to be favoured with a communication of the result of some trials which have been made of it in this neighbourhood. One very obstinate case of chronic rheumatism, we know, has already been successfully treated by the gentleman who has promised us this account, which will probably appear in our next number. The preparation used by Dr Bardsley, is the well known solution of Fowler, the arsenite of potass; the dose five drops three times a-day.

Nodosity of the joints. For a particular account of this distressing and pertinacious disease, we refer to Dr Haygarth's Clinical Reports, and to the analysis of that excellent work, in the 1st volume of this Journal. Dr B. is of opinion, that this disease is more allied to chronic rheumatism than to gout. He gives us the history of three cases: the two first very briefly, the third more at length. In this last, after a fair but unsuccessful trial of arsenic, of the cod-liver oil, bark, guajac, and warm bathing, he had recourse to mercurial friction; and, by establishing and keeping up for some time a gentle salivation, with the assistance of tepid bathing, and topical bleedings by leeches, he effected a cure: From which instance, it appears, he thinks, that mercury is capable of destroying the disease when in its incipient state.

Singular affection of the Calves of the Legs.

"John Lindsay, weaver, æt. 36, April 3, 1796, was admitted an in-patient of the Infirmary, with the following complaint: He was seized three weeks ago with a violent pain in the muscles of the calf of each leg, soon after his removal from a garret into a damp cellar, where he worked. The pain was almost incessant; it was not increased by pressure; but became so severe at night, as to deprive him of sleep. The disorder was entirely confined to the parts first attacked; and was unattended with discoloration, tumour, or any external appearance of disease, except that the muscles were unusually flaccid and shrunk. He was able to walk about the wards, and conceived this exercise afforded him a temporary respite from pain. The appetite was tolerably good, and the animal functions in general but little impaired. Pulse ninety-six, and rather feeble. His countenance exhibited symptoms of uncommon anxiety and distress. I ordered the immediate application of vapour, and an anodyne, composed of antimonial powder, calomel, and opium, at bedtime. During the day, he was directed to take twice of a decoction of bark, with the volatile tincture of guaiacum, and *tinct. opii.*

"4th.—Notwithstanding he had taken one grain and a half of opium in the night, his sufferings had been so dreadfully acute, that the patients in the same ward complained of being unable to sleep from his continual wailing. I examined his legs very attentively this morning, but could not discover any marks of external disease. The medicines were ordered to be repeated, and the *stimulant liniment* to be diligently rubbed upon the parts, when the usual exacerbation of pain came on in the evening.

"5th.—On visiting the ward this morning, I learned with surprise, that the patient had suddenly expired last night at nine o'clock. He had applied the *liniment* at eight o'clock, when his distress was at its height; and after rubbing the parts with the same, for about a quarter of an hour, he joyfully exclaimed, that he was free from pain, and would go to bed. He had not been long there, when he was seized with slight convulsions, and immediately expired."

Another case is given of the same nature, in which a cure was effected under the use of blisters, electricity, bark, and guaiacum. It is regarded by Dr B. as a peculiar affection of the nerves of the gastrocnemii muscles.

On chronic rheumatism from the effects of mercury. Dr B. remarks, that it is not uncommon for a severe variety of rheumatism to supervene after an imprudent use of mercury, especially if its action be checked by exposure to cold. A case of this kind is given at length. No remedy succeeded until recourse was again had to mercury, and its sensible effects on the system became apparent by an established salivation. The case is not singular, and it proves, with others, " that such symptoms may be ascribed solely to a sudden suppression of the action of mercury on the system, and that the proper method of cure is to renew the application of this remedy, so that the habit may be duly impregnated with it."

To complete his excellent practical report on chronic rheumatism, Dr B. has added two tables, the first, shewing the result of various remedies in 135 cases of chronic rheumatism, and diseases of the hip-joint; and the second, exhibiting the age, sex, and termination of 258 cases of chronic rheumatism, and 11 hip-joint cases. From this last table, it appears, that of 135 males, 91 were cured, 31 relieved, 8 not relieved, and 5 dead; of 134 females, 69 were cured, 49 relieved, and 16 not relieved.

From the whole, he makes the following inductions and observations:

" 1. Chronic rheumatism is a disease which affects all ages, from five to seventy, and upwards; more generally from twenty to forty, but most frequently from twenty-five to thirty. The proportion of females, attacked at this period, exceeds that of the males, by more than one-third. A large proportion of married women, between the ages of twenty-five and thirty, was affected with *lumbago* and *sciatica*, after lying-in. Nor is this fact of difficult explanation. The wives of the manufacturing poor are frequently exposed, after parturition, to a state of accumulated heat, by lying in bed, and taking (what they term) *comfortable warm drink*. After a few days spent in this manner have elapsed, without any preparation, they enter upon either their usual domestic employments, or sit down to the wheel or the loom. It is to these causes, I have been able to trace the frequent attacks of *lumbago* and *sciatica*, which afflict poor lying-in-women.

" 2. *Lumbago* and *Sciatica* form one-sixth of the number of cases of chronic rheumatism in men, but the proportion of these local affections in women is rather more than one-fifth. The cause of this inequality has already been stated. The frequent occurrence of *lumbago* in men, may be attributed to the sudden and great exertions of the muscles of the loins in lifting weights, &c. and to the circumstance of the waist being generally more exposed to cold from a want of covering, than other parts of the body.

" 3. That the proportion of patients discharged *cured*, is larger in males than females. This is to be attributed to two causes. 1st, The disease in women, whose constitutions have been broken down by frequent parturition, is very difficult of cure. 2d, It appears from the second table, that a greater proportion of females was discharged *relieved*, than males. This happened, in many instances, from excessive anxiety of the mothers to return to their young families, before the cure was completed.

Their duration in the Infirmary was commonly for a shorter period than that of the men.

"4th, The number of deaths was confined to males, and amounted to five only. Of these, two died from fever and exhaustion, arising from a disease of the hip-joint; one from a singular affection of the calves of the legs; and, of the remaining two, one died of *Phthisis*, and the other of *Paralysis*.

"5th, The most general efficacious remedies appear to be, Local vapour, Electricity, Issues, Tepid-bath, Blisters, Rubefacients, Bark, and G. Guaiacum; but Mercury, Arsenic, and Ling-liver oil exert powerful, and almost specific effects, in some species of chronic rheumatism.

"6th, The ling-liver oil was more liberally used, and its good effects were more apparent, in the obstinate species of chronic rheumatism, which attacked women during the middle and latter periods of life, especially when their constitutions had formerly suffered from the disease, after parturition.

"7th, The cure of chronic rheumatism, even under its most severe and protracted form, is not to be despaired of, provided vigorous and active remedies be duly administered; for the number completely cured, comprehending a large portion of the worst cases, amounts to more than three-fifths of the whole; and of those relieved, to nearly one-third; and a great majority of the latter were in a state of convalescence, and in all probability would entirely recover.

"8th, The peculiar affection of the hip-joint, which has been so ably and satisfactorily illustrated by Dr Falconer, is a disease of rather frequent occurrence in this district. The use of local vapour, bleeding, and caustics, with the aid of electricity or galvanism, appear to act as powerful remedies, if seasonably applied."—p. 55.

Diabetes Mellitus. Of this disease we are presented with a history of eight cases, comprehending many judicious and interesting remarks and observations. The general result shows the great utility of the plan of treatment recommended by Dr Rollo; for, under the use of animal diet, we find the quantity of urea constantly increasing, and the proportion of saccharine extract diminishing. The two first were mild, and somewhat doubtful cases, and were discharged cured. The third was a severe and well-marked case, discharged convalescent. The subject of the fourth case, also well marked, died. The fifth patient was cured. —The effects of the animal diet were, in this case, rapid, manifest, and decisive. The sixth case is highly interesting; the patient had laboured under the disease two years. When first admitted, the urine discharged every twenty-four hours, measured thirty-two pints, each pint of which yielded twelve drachms of a thick sweet syrup, and every other symptom of the disease was equally well ascertained. A reduction of the urine to nine pints in twenty-four hours, and disappearance of a great part of the saccharine properties, speedily followed the use of the animal diet.

When discharged, the average quantity of urine did not exceed six pints, but the saccharine property, though greatly lessened, was not entirely lost In other respects, however, he seemed to enjoy his ordinary state of health. Even after his discharge from the hospital, he continued to amend of the diabetic symptoms, but in three weeks died of enteritis, the consequence, apparently, of a surfeit. An important pathological fact was also ascertained in this case, that the quantity of liquid egesta does sometimes exceed that of both the solid and liquid ingesta, and that the excess of the former cannot be accounted for, solely on the supposition of its being derived from a general wasting and diminution of the solid and fluid parts of the system. Dr Currie had already proved, by the case of Mr M. who suffered from dysphagia, "that the egesta exceeded the ingesta in a proportion much greater than the waste of his body would explain." But the case of Barrat, published by Dr Bardsley, of which we are now speaking, is still more curious, for, during the period in which the register clearly pointed out almost a regular daily excess in the amount of the urine, compared with that of the liquids and solids taken, the patient, notwithstanding, had gained an accession to his weight of seventeen pounds; a phenomenon, however singular, observed by Dr B. in two other cases, though in a less degree.

The seventh and eighth cases also demonstrate very clearly the great efficacy of the animal regimen in diminishing the quantity and changing the properties of diabetic urine, and in relieving the concomitant symptoms. The former was nearly cured of diabetes, but seemed sinking under phthisis; the latter was discharged cured, and continued afterwards free from disease.

Our limits have not allowed us to notice every interesting particular. But, recommending to our readers a careful perusal of these cases, we shall here save ourselves the task of abridgment by transcribing the general results.

"1st, That it is to the sagacity of Dr Home, we are chiefly indebted for hints towards a successful mode of treating diabetes mellitus; and that Dr Rollo is justly entitled to the praise of greatly enlarging our views, both of the theory and practice of this disease.

"2d, That an abstinence from vegetable, and the employment of animal food, together with the nitric acid, blisters to the loins, opiates, and the warm or tepid bath, comprehend the general method of cure; and that bark, astringents, and alkalies, either alone, or combined with sulphur (such as the hepatised ammonia, recommended by Dr Rollo), afford little, if any, assistance in subduing diabetes, or even arresting the progress of its characteristic symptoms.

"3d, That the above means, if duly persisted in, are capable of effectually curing diabetes mellitus in its incipient state, when unaccompanied with any dangerous organic affection; and that, even in the most acute, and aggravated instances of the complaint, a steady perseverance in a proper regimen will arrest the progress of the diabetic symptoms, and bring the patient into a state of convalescence.

"4th, That in order to restore the patient to general health and strength, an admixture of vegetable with animal food, is to be gradually and cautiously entered upon, as soon as ever the saccharine impregnation of the urine, and the voracious appetite have disappeared.

"5th, That it appears, from Barrat's case, great attention should be paid to the state of the primæ viæ, after the cessation of the diabetic symptoms, as the tone of the stomach remains, for some time, much impaired, and the bowels also become torpid, and are liable to dangerous inflammation, if evacuations be not speedily procured.

"6th, That indulgence in spirituous liquors, exposure to cold and wet, a habit of profuse sweating, the immoderate use of acid drinks (such as sour butter-milk and whey) excessive labour, joined to hard fare, and the depressing passions, are among the most frequent predisposing causes of the disease.

"7th, That phymosis is no more than an occasional symptom in diabetes mellitus, and can only happen when the prepuce, in its natural state, is so far elongated as to cover the glans; and that it seldom, if ever, does occur, until the disease has been some time established.

"8th, That in some very protracted and severe cases, a long and rigid abstinence from every species of vegetable matter was not found adequate to destroy the existence of sugar in the urine; for when the sensible qualities of this fluid did not point out the least saccharine impregnation, yet, on exposing an extract obtained from it by evaporation, to the test of chemical analysis, it was found to contain more or less of the oxalic acid.

"9th, That the liquid egesta, in the confirmed and more advanced stages of diabetes mellitus, almost uniformly exceeded the amount of the liquid ingesta; and that sometimes the combined quantity of both solid and fluid ingesta, did not equal the urinary egesta. It is, therefore, highly probable, that the excess of the latter was supplied by increased absorption of fluids from either the surface of the skin or lungs.

"10th, That diabetes mellitus is frequently accompanied with pulmonic disease, and often terminates in phthisis pulmonalis.

"11th, That males are more liable to the disease than females; and that this may perhaps arise from the greater exposure of the former to those occasional causes which are enumerated in No. 6.

"12th, That the excess of extractive matter in diabetic urine is, for the most part, in proportion to the violence and severity of the disease, especially when the patient is under no restraint of diet; and that the quantity of this extractive matter is speedily reduced by the use of animal food, and this reduction, to nearly the healthy standard, is one of the leading indications of an abatement of the malady.

"13th, That there exists a deficiency, if not a *total want of the urea*, in the urine of such cases of diabetes mellitus as are distinctly marked, and where the disease has attained its acmé; and that the restoration of this principle to the urine, is among the most certain signs of a removal of the disease."

This last conclusion is deduced from some very satisfactory experiments, instituted with the view of determining the question relative to the existence of urea in diabetic urine.

On treating the diabetic extract of two of his patients prior to their abstinence from vegetables, with nitric acid, there was no precipitation of urea, but, on cooling the solution, crystals of oxalic acid were abundantly obtained. A mixture of the extracts of diabetic and healthy urine, treated in the same manner, gave a proportionate precipitate of nitrate of urea.

In order to determine the progressive effects of animal diet on the saccharine properties of the urine, a portion of the extract belonging to each patient was submitted to experiment, at the expiration of three weeks from their adopting this regimen. It was found that one pint of urine afforded nearly one-third less extract than was obtained by the first experiment, and likewise that this substance had acquired some degree of urinous odour and taste; yet, notwithstanding, the crystals of oxalic acid again made their appearance, although in a much inferior proportion. Moreover, during the progress of each patient's treatment, when the urine betrayed, by its sensible properties, no trace of saccharine impregnation, and even the nitrate of urea had been obtained, in like manner as occurred in the experiment with healthy extract; yet still a portion of the diabetic residuum yielded some oxalic acid, when operated upon in the usual manner.

When the first and more regular crystals of oxalic acid, formed by the action of nitric acid on diabetic extract, have been separated, and the residuum is again treated with more acid, a confused set of lamellated crystals are obtained, which to appearance resemble those of the nitrate of urea. But these also are shewn to be oxalic acid, for, on adding them to lime water, a copious precipitation was thrown down. It was this confused and lamellated crystallization which imposed on Dr Bostock for the nitrate of urea,—who, on repeating the experiments at the suggestion of Dr Bardsley, and subjecting this second crystallization to the test of lime water, with a candour highly honourable to himself, acknowledges, that his opinion concerning the existence of urea in diabetic urine was too hastily formed, as it entirely rested upon the visible appearances of the substances which he procured, and which more accurate tests proved to be erroneous.

Effects of Galvanism in Paralysis. This report contains an account of ten cases of paralysis treated by galvanism. Three cases of general paralysis were cured, one relieved, and one not relieved. Of partial paralysis, one case of ischuria, one of hemiplegia, and one of paraplegia, were cured; one case of paraplegia was much relieved, and one of hemiplegia not relieved.

The powerful effects of the galvanic stimulus in some of these cases seem indubitable. In some, the relief obtained was manifest and rapid. The following general conclusions and observations are summed up by our author :

> " 1st. That galvanism, *judiciously* administered, is a safe and powerful remedy in most paralytic diseases. 2d. That, as far as three comparative trials allow of an inference, the efficacy of galvanism in paralysis is superior to that of electricity. And if we compare the general result of the application of galvanism, in the nine cases now reported, with an equal number of similar instances treated by electricity, or any other established mode of cure, the decision will, I believe, be in favour of galvanism : For it appears, that out of five cases of general paralysis, three were restored by galvanism ; and out of five partial instances of the disease, three recovered. 3d. That galvanism agrees with electricity in its sensible effects upon the body ; for, like the latter, it increases the action of the arterial system, excites strong muscular contractions, heat, and even blisters upon the skin, and produces, when too powerfully administered, sickness and faintings. 4th. When the brain is required to form part of the circle, the galvanic influence ought to be very cautiously administered. Five plates, two inches and a quarter square, will in general prove sufficiently powerful at first ; and even this number ought to be diminished, if violent pain, and vertigo in the head, tremors, or convulsive sobs, and tears, should be occasioned by the operation. 5th. If no sensible advantage accrue from a steady, and properly regulated application of this remedy, after a trial of a week or ten days, in paralytic affections, especially where the sensorium is operated upon, its use ought to be laid aside ; for, if persisted in under such circumstances, the derangement of the system seems rather to be increased than diminished ; at least the feelings of the patient are rendered more irritable and uncomfortable. 6th. When the pulse has become quicker and firmer, the local as well as general temperature of the body increased ; the feelings, both mental and corporeal, somewhat enlivened, and the altered secretions better regulated, it is proper to infer, from such indications, that galvanism may be persisted in with a fair prospect of ultimate success. 7th. Where both sensibility and irritability are so greatly exhausted, as not to render the patient susceptible of the galvanic stimulus by the ordinary means ; or where, from the unusual thickness of the cuticle, it forms a barrier to the transmission of the fluid, it will be necessary to excoriate the surface by blistering ointment, and apply the metallic points to the raw skin. But the pain and agitation frequently induced by administering the remedy through so sensible a medium, must be guarded against, by adapting the number of plates to the increased degree of susceptibility."—P. 212-214.

In the following case, which occurred in our own practice, the good effects of galvanism were very obvious. Alexander Allan, aged twenty-four, applied at the Public Dispensary of Edinburgh on account of a paralytic affection of his arms, the muscles of which were much wasted and very flaccid, with total inability to grasp even large bodies, or to raise his arms from his sides. Three years ago, when keeper of a rum store in North Carolina, and in the habit of drinking, but not immoderately, of rum, which, he says, was three years imported from the West Indies, he was gradually seized with twisting pains in the abdomen, particularly after taking food; and he was also troubled with severe vomiting and obstinate costiveness, the latter in such a degree as to resist the action of the strongest purgatives. These symptoms continued more or less severe for nine months, when he began to experience an inability to move his arms. His left leg was also affected for a short time, but recovered its sensibility by the use of warm salt-bathing. His complaints becoming daily worse, he returned to Scotland, since which time he has had no return of pain in the abdomen, and his bowels have been very regular. On becoming a patient at the Dispensary he got some camphor pills, and was daily galvanized through both arms. Under this treatment, his arms gradually recovered their plumpness, sensibility, and power, so that, when this report of his case was drawn up, he could grasp the minutest objects, and raise his hands above his head. On the galvanization, a prickling pain extended nearly the whole length of the arm, and continued for many minutes after the operation.

Medical effects of the White Oxyd of Bismuth. This oxyd was first introduced as a remedy in certain cases of gastrodynia, we believe, by Dr Odier of Geneva. A favourable report has since been given of its powers by Dr Marcet; and the experience of Dr Bardsley amply confirms the testimony of these physicians. In gastrodynia, cardialgia, pyrosis, and other affections of the stomach, accompanied with, or free from spasm, it appears capable of affording great relief. It appears, at the same time, to be a remedy recommended on the ground of safety as well as of utility. The dose is five grains of the oxyd of bismuth, with twenty-five grains of gum tragacanth three times a-day.

Six cases are related by Dr Bardsley of gastrodynia and pyrosis, five of which were cured by this remedy; the other was relieved from his sufferings, though he laboured under an organic affection of the stomach,—scirrhus of the pylorus. Besides these, he has treated five other cases of pyrosis, accompanied more or less with spasmodic pains of the stomach, with an uniform success. In all these instances the bismuth (with occasional aperients) was solely employed.

A remarkable case of *Hydrophobia*, occurring twelve years after the bite of a supposed mad dog, the history of which was published by Dr Bardsley in the Manchester Memoirs, Vol. IV. 1793, seems to have fixed his attention on the subject of canine madness, and spontaneous hydrophobia. The case is here republished,

lished, together with some interesting observations, and an inquiry into the origin of canine madness, and means of its extirpation.

John Lindsay, the unfortunate subject of this case, though formerly bit by a supposed mad dog, continued free from any appearance of the disease for twelve years after, when the first symptoms supervened to great mental irritation, unprecedented bodily exertion and fatigue, and scanty subsistence. He died, after passing through all the symptoms which characterize rabies canina.

In considering the circumstances of this case, the question naturally occurred, whether the disease arose from the influence of the canine poison, introduced twelve years before, or from the operation of the other remote causes just mentioned ? Was it, in short, an example of canine, or of spontaneous hydrophobia, of hydrophobia arising from other causes than the poison of a mad dog ? To facilitate this inquiry, Dr Bardsley examines critically the histories and facts which have been adduced in favour of the opinion, that the canine poison has lain dormant for a great length of time, and afterwards been excited into action ; the cases which have been attributed to the contact of the saliva of a rabid animal with the surface of the skin, or to the application, internally as well as externally, by any other mode than the intervention of a bite ; and, lastly, such instances of the disease as have been said to have arisen spontaneously, or, at least, whose origin could not be traced to a bite, or any other mode of infection from a rabid animal. The conclusions to be drawn from Dr Bardsley's judicious criticism are,

> " 1st, That poison of a rabid animal may lie dormant, in some instances, for the period of twelve, and even twenty months ; yet, that the cases related by various authors, where canine madness is said to have occurred at the distance of seven, twenty, and forty years from the communication of the poison, may be justly considered as either instances of spontaneous hydrophobia, or of such diseases as occasionally exhibit the anomalous symptoms of an inability to swallow fluids, and an aversion at the sight of them : the poison of a mad animal has had no share in their production. 2d. That the mere application of the saliva of a rabid animal to the skin, especially to those parts where its structure is of a thin and delicate texture, such as the lips, tongue, &c. has produced the disease of canine madness; but that the inspiration of the breath of a mad animal, by any person, has ever produced this complaint, appears highly improbable, and is not supported by positive facts. 3d. That local irritation, from wounds in irritable habits, especially when conjoined with a perturbed state of the passions, and also violent affections of the mind, independently of corporeal injury, in hysterical and hypochondriacal constitutions, have produced all the pathognomonic symptoms of

canine madness; and, finally, that violent alternations of heat and cold, and all other causes which induce great debility, and, at the same time, increase the irritability of the system, have, at times, proved adequate to the production of symptoms exactly corresponding with those of rabies canina."—p. 280.

It must, however, after all, be confessed, that this subject is still involved in great obscurity, and that it is extremely difficult, from all the vague evidence we possess, to assign limits to the operation of a virus, such as that of the mad dog, which does confessedly lie dormant in the system for a long uncertain period, from a few days to twelve months or more. On the other hand, there is no doubt that symptoms, exactly resembling those of genuine rabies canina, have arisen in the human body from other causes. And surely causes more equal to the production of the disease can scarcely be conceived, than those which operated in the case of Lindsay.

" When I reflect," says Dr Bardsley, " that we have no authentic testimony of the canine poison lying dormant more than twenty months at farthest; that hydrophobia, with all the pathognomonic symptoms of rabies canina, has been produced by other occasional causes than the infection of a rabid animal, and also, that notwithstanding a person should have been really exposed to the canine poison, the chances are greatly in favour of his not being infected, I am compelled to conclude, that this patient fell a victim to other causes than the poison of any rabid animal. Nor do I conceive that the effects detailed in this case are disproportionate to the power of the supposed causes. We ought to consider the melancholic temperament of this patient, so much predisposed to mental and corporeal irritation—the weight of his affliction at the heart-rending prospect of his family's distress—his unremitted, but ineffectual efforts to remove these calamities—and the scanty portion of sustenance he allotted to himself during this almost unexampled struggle of strenuous exertion against famine, debt, and despair? Add to these circumstances, the effects of imagination in aggravating the violence of the disease. For although the patient's dread of liquids did not arise from this cause, as he felt a difficulty in swallowing them previous to being impressed with a remembrance of his having been bitten by a supposed mad dog; yet the moment this idea took possession of his mind, he considered his recovery as hopeless. The image of the dog haunted his imagination with perpetual terrors; and the expectation of a violent death, by being smothered (a vulgar and unjust persuasion too often entertained) would not a little tend to increase the nervous irritation already excited."—p. 289-290.

The plan, however, for extirpating canine madness from this kingdom, is founded on the opinion, that, in dogs at least, the disease never rises spontaneously. The proofs of this opinion are deduced by Dr Bardsley from a cursory examination of the supposed causes of spontaneous hydrophobia in that animal. The causes which have been alleged to favour the spontaneous origin of the disease, are putrid aliment,—climate,—deficiency of water,—want of perspiration; and worm under the tongue.

The two last are altogether fanciful. As to putrid aliment, it is remarked, that hounds are fed, for the most part, on horse flesh and other carrion, often putrid, and yet escape the disease; and that, in countries where canine madness is unknown, as at the Cape, and in the interior, amongst the Caffres, the dogs almost entirely feed upon putrid animal flesh. Against the influence of climate, it is argued, that the disease is peculiar to none; that it occurs equally in the coldest and hottest climates and seasons; and that, in some of the hottest regions of the earth, as in South America, Syria, and Egypt, it is totally unknown. Nor does deficiency of water appear more connected with it: in Antigua, from the want of springs, water is less accessible to dogs than in almost any other spot on the globe, yet there canine madness never prevails; and in the parched desarts of southern Africa, dogs often suffer dreadfully from want of water, but rabies is never found to be the result of this privation. These remote causes, then, being insufficient to account for the origin of the disease amongst dogs, it may be inferred, that the disease is propagated, by infection only, from one dog to another. Accordingly, those sportsmen who have been scrupulously attentive to the common rules of medical police, have preserved their dogs from the disease. Mr Meynell preserved, for many years, his kennel from madness, by making every hound perform quarantine before he was allowed to join the pack.

The proposal, then, of Dr Bardsley is:

> " An universal quarantine for dogs within the kingdom, and a total prohibition of the importation of these animals during the existence of such quarantine.
>
> " The efficacy of this preventive scheme rests upon the validity of the following propositions:
>
> " 1st. That the disease always originates in the canine species.
>
> " 2d. That it never arises, even in them, spontaneously.
>
> " 3d. That the contagion, when received by them, never remains latent more than a few months."

However probable these propositions may appear, from all that has been urged by our author, they are far from being clearly demonstrated. They are, therefore, with equal modesty and propriety, again stated in the form of queries, addressed to professional men, and he solicits answers from those who have directed their attention to the general subject.

In compliance with Dr Bardsley's request, and in return for the information he has given us, we shall here, and we trust not improperly,

properly, insert a very concise account of three singular cases which we lately met with in a miscellaneous volume, probably little known to medical readers in this country, "Opere del Consigliere, Gian Lodovico Bianconi. Tomo IIdo. 8vo. Milano, 1802." Dr Lupacchini, physician at Aquila, in Abruzzo, was bitten on the ancle by his own dog. He did not believe it to be mad, as it afterwards eat and drank, but it was killed contrary to his will, the same day, by some other persons whom it attacked. A year afterwards, he felt an unusual torpor in the limb, which continued two months, when he perceived a slight difficulty in swallowing fluids. This was on a Sunday; the symptoms gradually increased. and he died on the Friday. He was not affected by the sight of fluids, but could never swallow a drop, and suffered extremely from cold air and the sight of splendid bodies. He had a great desire to bite, and the cicatrices of the wounds did not open, or undergo any change, before or during the progress of his disease. A monk, 70 years of age, was bitten by a dog which did not bark. Two years after, he felt a difficulty in swallowing, and died in three days, with symptoms very much resembling hydrophobia. The third case is remarkable, as it shews the effect of the imagination in exciting the disease. A dog bit five persons, one of these a lady, who was persuaded the dog was not mad, experienced no bad consequences, until two months afterwards, when a gossiping visitor congratulated her on her escape, as the others had all died eight or ten days after they were bitten. She was immediately depressed, complained of severe pain in her wounded arm, and in two days died rabid. For the doubts and reflections of the intelligent and sceptical author, to which these cases have given rise, we must refer to the work itself.

VII.

A Treatise on the Diseases which are incident to Sheep in Scotland; drawn up from Original Communications presented to the Highland Society. By ANDREW DUNCAN, Jun. M.D. F.R.S. Ed. &c. From the Transactions of the Highland Society. Edinburgh, 1807.

OUR readers may perhaps remember, that we gave them a short account of an essay on the disease called *the rot in sheep*, in one of our early numbers; and we concluded our remarks with expressing a hope, that some agricultural society would take up this subject. At that time we did not know that the Highland Society, in the year of 1803, with the laudable view of collecting information relative to a most important national object, offered a gold medal, or piece of plate of forty guineas value, to the author of the best essay on the accidents and disorders to which sheep are liable. As a proof how widely extended is the spirit of enlightened observation among farmers and breeders in the northern part of our island, no less than ten essays of considerable length, besides shorter communications, were transmitted to the Society; and although no one was deemed so complete or superior to the rest as to be worthy of the prize, yet each of them received some mark of approbation; and they were all put into Dr Duncan's hands, to select and arrange the most original and valuable information into one general treatise, to be printed in the Society's transactions. Thus is the condensed body of sheep-farming knowledge now sent into the world, with the corrections of an intelligent and candid editor. He tells us, he has not inserted a single fact or observation which does not rest on the authority of one or more of the essays submitted to his revision, and he has endeavoured to omit none of their statements by which the knowledge of the diseases of sheep might be increased, and the means of preventing them rendered more perfect. We wish, indeed, that, among other corrections, the editor had made some attempt to reconcile the apparent contradictions in some of the accounts of the diseases, that the remarks of one writer might not have been invalidated by the opposite assertions of another; but to mean well is a degree of merit which overbalance much greater errors than inconsistency in a work composed of such different materials; and, in the present imperfect state of our knowledge, a diversity of opinion may lead to the discovery of truth.

In our review of Dr Harrison's essay, we have already given some hints respecting the causes of the rot, and we pointed out several disorders which go under that name. Those opinions have received additional confirmation, though no new light, from reading the different descriptions here detailed. We shall now endeavour to follow the writers through all their observations on this interesting quesion. The editor begins by stating to the farmer the importance of being able to distinguish sheep tainted with the rot, however slightly, as soon as they are affected, because they never recover perfectly, and, in the early stages of the disease, they fatten as quickly as healthy sheep. Rules for determining the soundness of sheep, when the stock is drawn at Martinmas, are then given, from the words of experienced shepherds. The symptoms of the disease are next described and then the appearances on dissection.

"If opened soon after it is dead, a sheep which dies of the rot emits very little smell. Upon taking off the skin, which is unusually tender, the fell, as it is called, is entirely white, and the whole carcase has a dull white or leaden colour. In the belly, water is sometimes found. The liver, and especially its concave side, is always enlarged, sometimes to a very extraordinary size, and, instead of its healthy red colour, is of a livid dun, variegated with many white spots. These correspond with indurated portions of its substance, which are the more easily felt, as the other parts are soft and spongy; or it appears as if interlarded with layers of sand. Both upon the outside of the liver, and in its ducts, are generally found great numbers of an ugly flat insect, having some resemblance, in their shape, to flounders or flukes, *(faciolae hepaticæ)*. These are not, however, peculiar to this disease, as they are found, though very few and very small, in most aged sheep, and as in some rotten sheep they do not exist. When the liver is very rotten, it is also studded with hydatids or globules of water, which are likewise found adhering to the lungs, and among the tallow. Besides, the liver does not stiffen when boiled, and is said, by Mr W. Hog, to become very quickly putrid. The small intestines are blackish and tender, as if they were rotten, and will scarcely bear handling, and the lacteal glands, or clyars, as they are called, are always swelled and hard.

"The lungs are likewise swelled to a greater size, and assume a whiter colour, and are often streaked on the outside with white, and under these streaks are to be found hard substances like cartilage or even bones.

"Mr Stevenson is more particular in his description. 'In the rot, the lungs are the principal seat of the affection; and, on opening the body, they are found sometimes almost destroyed. In the whole of their cellular substance, there are a number of white round knobs, of a larger or lesser size, which, in the parts most affected, are found swelled into a bag, which is filled with white and pure matter. Some of them are very large, and the side of the lungs in which they exist is quite destroyed, and a membranous bag left in their place, full of matter, of a thinnish appearance, which is at times coughed up. Hence arises the difficulty of breathing.

"When these swelled parts, or tubercles, as they have been called, are in the lungs, the latter generally adhere to the side of the ribs, which they do not do in a natural state. These tubercles I have seen in lambs, scattered through the substance of the lungs like so many pin-heads. In general, the left side of the lungs, or that in which the heart lies, is most affected in rot. The lungs are found at times considerably swelled, and a collection of water around them. This is only, however, towards the beginning of the disease.'

"The mutton of rotten sheep does not stiffen when cold, but remains flaccid, and, when boiled, dissolves away to mere membrane, and has a weak, watery, and insipid taste; the muscular fibres are pale and wasted, but the fat seemingly remains. It, however, appears dry, dead white, and brittle, or shining with water, and in its nature it is completely altered, for it does not melt or inflame like an unctuous substance, but when thrown on the fire, crackles and blackens to a cinder. Very little blood is found in the animal, and it is pale and thin, resembling water tinged with blood, rather than blood. The bones are remarkably brittle." p. 126-28.

The causes which contribute to the production or prevalence of the rot, may be considered as depending upon the soil, on the weather, and on the animal itself.

" Whatever injures the constitution, or tends to debilitate sheep, also renders them more liable to be affected with the rot. Nothing contributes more than a course of changeable weather from one extreme to another, to waste sheep, and nothing is more difficult to guard against, which has given rise to the proverb,

Mony frost, mony a thow,
Soon makes mony a rotten ewe.

" Overheating sheep in autumn by severe dogging, or rash and inconsiderate management, has also the worst effects in breaking their spirits, and wounding their constitution. Ever afterwards, they feed only on soft tathy meat, which always insures rot in the spring. Ewes, and especially gimmers, which have been debilitated by being milked, or sucked too long, commonly suffer. The rot may be also considered as an hereditary disease, at least the lambs of tainted ewes are never sound."

Sheep that have plenty of food and good shelter, are said never to be affected with the rot. This, however, is not always true; the appearance of the disorder seems to be owing to any sudden change of food; and one of the authors asserts, that it is always occasioned by a too quick transition from fatness to leanness.

Cure.——" As soon as there is any appearance of the rot, such food as they delight in should be offered to them, and their appetite excited by a little gentle exercise. As long as their bellies are light, a bite of broom, heather, or sea-marsh, twice a-day, will, in general, recruit them. Salt is a known antidote in this disease. Sheep are also naturally fond of salt, when they have free access to it. They have been known to run to salt in wooden backets and to lick the salt bags hung up in their folds; to eat salted hay, and to drink out of cisterns having salt in solution among the water. On a small scale, it may even be given in water by the hand, and poured down their throats. Of all medicines, it is the safest and most effectual against this distemper.

" With respect to the cure of it by medicines, little can be said with certainty. The leaves of elecampane, coltsfoot, honey, plantain, foxglove, &c. have all been recommended, but undeservedly, except the foxglove, which seemed to Mr Stevenson to arrest materially the progress of the disease, in those cases in which it was tried. A handful of the leaves was boiled in a Scotch pint of water, until it was reduced to three mutchins, and of this decoction, two tea-spoonfuls were given three times a-day, with a little molasses and water.

The following receipt has been recommended as very efficacious: Steep four pounds of antimony in two gallons of ale, for a week, and give the sheep a cupful of it night and morning.

Of these dreadful effects of unwholesome food and bad air, some perhaps are imaginary, and some may have another cause. That the disease commonly called rot, and all the maladies which proceed from debility, poor food, and improper management, are less frequent now than in any former time, seems undoubtedly true; but organic affections of the lungs or the liver will not be entirely expelled in this climate, by draining all the wet lands in the united kingdoms. The annual losses of sheep are very great; it therefore becomes an important consideration to diminish them, and draining appears to be the best preventative. One of the authors, whose essay is analysed in this treatise, is a Mr Stevenson, who combines the twofold character of surgeon and farmer; his observations are more scientific than the rest, and he relates some cases to shew the efficacy of certain remedies. He has made several classifications, which are given in the appendix, and the following may be quoted as likely to prove useful to persons in the country, who choose to engage in any inquiries relative to comparative pathology.

No. VII.

Classification according to the nature of the disease. By Mr Stevenson.

Diseases attended with Fever; including,

1. Sickness.
2. Braxy.
3. Leaping-evil.
4. Inflammation of the lungs.

Diseases attended with a vitiated habit; including

1. Rot.
2. Leg-evil.
3. Dropsy.
4. Jaundice.
5. Sturdy.
6. Staggers.
7. Redwater.
8. Wildfire.

Local Diseases; including,

1. Purging.
2. Blindness.
3. Scab.
4. Maggots.
5. Cramp of legs.
6. Tail-evil, or Tag.
7. Foot-rot.

VIII.

Dissertatio Chemico-Medica Inauguralis, de Acid Urico, et Morbis à Nimia ejus Secretionie Ortis. Auct. GULIELMO HENRY. Edinburgh, Sept. 1807.

THE subject of this dissertation is only a branch of a much more extensive one, in which the author states that he is engaged, viz an inquiry into the composition and remedies of urinary stone, and gravel in general. These concretions, it is now well ascertained, are composed, in different cases, of very different ingredients. A large proportion of them, however, consist of the *uric acid*, a substance which is always present in the urine, even in its most healthy condition; and the properties of which, though investigated by several distinguished chemists, Dr Henry found, had not, in some respects, been ascertained with sufficient precision. The experiments detailed in his inaugural dissertation, were therefore instituted, previously to the examination of such calculous concretions as are composed wholly or chiefly of the uric acid.

The First Section gives an historical view of discoveries respecting the uric acid, from the time of Van Helmont to the present day.

The Second Section affords a detailed account of the properties of the uric acid, both as established by the author's own experiments, and by those of other chemists. They are to be understood of the purified acid, obtained by the solution of calculus in pure potash, precipitation by muriatic acid, and copious ablution with water.

In this state, the uric acid is a perfectly white powder, entirely destitute of taste and smell. The colour, and other sensible properties, which it usually exhibits, arise entirely from foreign admixtures. It is not dissolved by less than 1150 times its weight of boiling water, or 1720 parts of water at 60° Fahrenheit. The solution, on cooling, deposits a number of small crystals, and gives a red tinge to infusion of litmus; which change is still more distinctly effected, by heating the blue infusion with the powdered acid. No effervescence is produced by the admixture of this solution with one of an alkaline carbonate.

The well known property of affording a bright red substance by evaporation to dryness with nitric acid, Dr H. finds to belong to the uric acid, when attentively purified; and not to depend, as Fourcroy asserts, on the admixture of urea.

After the most attentive experiments, Dr H. has proved, that the alkaline carbonates, or sub-carbonates, do not exert the smallest solvent power over the uric acid. This fact is important in a medical view. The acid, however, is rapidly dissolved by solutions of pure alkalies, especially the fixed ones; and though less quickly, by lime water and a solution of soap, from which last, with the aid of heat, it detaches the oil. It is dissolved, also, by sulphurets and hydrosulphurets.

The uric acid is capable of uniting with alkalies, &c. in two ways; 1st, To the point of saturation, forming *urates*, properly so called. The properties of these compounds, all of which are very difficultly soluble in water, Dr H. has investigated with great minuteness; but we refer, for the details, to his thesis, because, though interesting to the chemist, they have no connection with medical practice. The sub-urates, or urates with an excess of alkali, are readily soluble; and these must necessarily be the compounds which are formed, if in any case we successfully attempt the solution of calculous concretions within the body. The urates and sub-urates are decomposed on the addition of acids. If, however, a *weak* acid (as the carbonic or prussic), or only a *small quantity* of a stronger acid, be added to a sub-urate, the precipitate is not uric acid, but a saturated urate. To this circumstance Dr H. thinks it of importance to attend, in preparing the purified acid for the purpose of experiment; and he is of opinion that the errors of some chemists have arisen from their operating on a *saturated urate*, and not on *uric acid*; in consequence of which, they have been led, without sufficient grounds, to deny the acid nature of this substance. In precipitating uric acid from an alkaline solution, the acid employed should be added suddenly, and in considerable quantity.

The decomposition of the uric acid, by various agents, is next fully described. Our limits, however, only allow us to state, that the sublimate, obtained by distilling the acid *per se*, Dr H. finds to consist of ammonia united with a peculiar, and hitherto undescribed acid, differing essentially from the uric, benzoic, and succinic acids; and the properties of which he reserves for further examination.

Section Third.—Of the generation of the uric acid within the body. On this obscure subject, the author laments there is such a paucity of facts, that, in the present state of physiological science, it is impossible to form a rational theory respecting it. From the experiments of Dr Wilson, however, there appears to be a connection between the presence of acid in the primæ viæ, whether generated there or taken as a part of diet, and the increased appearance of uric acid in the urine. Suppressed perspiration, also, augments the secretion of this acid. With respect to the influence of impure or *hard* water, in generating stone and gravel, Dr H. apprehends that it is an unfounded prejudice; and states, that so far as his experience extends, hard waters are rather unfavourable to the production of calculus.

Section Fourth.—On the cure of the diseases which arise from an increased secretion of uric acid.

The only diseases which can, with certainty, be ascribed to an increased production of uric acid, are certain varieties of urinary stone and gravel. Gout has also been said to have a connection with the same cause; but this is rather matter of speculation than of experience.

The indications in the cure of diseases depending on this cause are reduced by Dr H. to two: 1st, By giving tone to the stomach, and to the system in general, to prevent the further morbid production of uric acid; and, 2dly, to remove any portion which may already be accumulated.

For the solution of uric concretions, when actually formed, he is of opinion, that soap, lime-water, and, above all, the pure fixed alkalies, all of which have long been used with this view, are the only means deserving our confidence. But though the carbonated alkalies, under the various forms of soda pills, soda water, &c. cannot possibly, as appears from the author's experiments, possess any solvent power over uric concretions, he does not deny their utility, which seems, indeed, sufficiently established as a matter of experience. He apprehends that the mild alkalies act by neutralizing any acid in the alimentary canal, which may have been formed by depraved digestion, and by preventing the further morbid generation of uric acid. When the urine is thus deprived of its depositing power, he thinks it may, itself, exert the property of a solvent, in at least the same degree as water; and, by its continued, though slow operation, may even remove small concretions. Large and hard masses of uric acid, formed in the urinary passages, he is of opinion, no solvent can remove, whether taken by the mouth, or injected into the bladder; and he limits the use of pure alkalies to the early stages of the disease, and to that variety of it, in which the concretion takes the form of stone or gravel.—His rules for the regulation of diet and regimen, we are prevented, by our limits, from inserting.

We readily concur in giving publicity to Dr Henry's request, for the communication of specimens of urinary concretions, in order that he may be enabled fully to prosecute an inquiry of considerable importance to the art of medicine. The calculi may be addressed to him at Manchester. They will be neatly divided by a saw; and, in all cases, one half, or, unless there should be something new in its appearance, the whole calculus will be returned to the proprietor, much better adapted, by this division, for exhibiting its structure and formation.

IX.

Dissertatio Medica Inauguralis de Typhi Remediis. Auctore BALDWIN WAKE. Edinburgi, Jun. 1807.

THE object of this dissertation, in addition to a general review of the remedies of typhus, is to state the author's experience of the beneficial effects of gestation in that disease, a practice which at first arose out of necessity, but which has since been successfully imitated, though only to a very limited extent, in other instances. To the novelty of the treatment, Dr Wake does not lay any claim. Celsus, he observes, describes it to have been the practice of Asclepiades. Of modern medical authors, Dr Jackson is the only one * who recommends gestation in fevers from actual experience; but his recommendation does not appear to have met with the attention to which it was entitled. Dr Wake's observations of its utility were made some years before the publication of Dr Jackson's work, and at a time when he was wholly unacquainted with its having been mentioned by any author.

In the spring of 1794, the British army began its retreat from Holland, and it became necessary, in consequence, to remove all the sick who were confined in the hospitals. In that of St Guislain, among other patients, were several labouring under typhus fever. These were conveyed, in open carriages, to Dendermonde, a journey which was not completed in less than four days. During this time, several, who were dangerously ill, experienced a great remission of their symptoms, and all became convalescent. One man, in particular, who had so severe a disease, that it had been determined to leave him behind, and who was removed only in consequence of his own earnest entreaties, in a few days after arriving at Dendermonde, was entirely out of danger.

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* Outline of the History and Cure of Fever, 1798, p. 287. Remarks on the Constitution of the Medical Department of the Army, 1803, p. 296.

During this journey the temperature of the air was mild, and the sky serene; but, in the next spring, the same advantages were experienced in a very opposite state of the atmosphere. More than a hundred patients, labouring under fever, were removed, in open carriages, from Embden to Bremen, a journey of four days, and with the same happy event as before, though the weather was extremely cold, accompanied with frequent falls of snow. It was observed, that delirium, in particular, was abated by the locomotion.

From Dr Wake's observation of the effects of the removal of these patients, he lays down the following rules respecting the use of gestation. 1. It is most beneficial in the last stage of fevers. 2. It should be performed in an open carriage, in order that air may be freely admitted, and that the patient may be amused by a succession of new objects. 3. It should be continued for eight or ten hours daily, till the patient begins to recover.

To his own evidence Dr Wake adds that of Mr Jones, surgeon of the Royal North British Dragoons, as conveyed by the following letter.

"DEAR SIR,—In June 1803, the regiment in which I serve marched to Canterbury; and, in the autumn of the same year, Typhus Fever prevailed very much among the troops composing the garrison of that city. The Royal North British Dragoons did not escape its attack, from their having been crowded together very closely in ill-ventilated damp apartments, hired as temporary barracks. Having at that time read Dr Jackson's book, then lately published, in which he so highly extols the use of *Gestation* in the disease before mentioned; and having myself observed its good effects on the Continent during the years 1794 and 1795, when the sick of the British Army were on many occasions unavoidably removed, I determined to make trial of it in the typhoid cases then under my care at Canterbury. Many patients were submitted to it with the happiest effects: and I have used it ever since as a remedy in this disease, with very great success. I shall give a brief description of the first case, in which I tried gestation as a remedy.

"October 10, 1803. *Joseph Bassett* had been ill seven days. An emetic had been given on his admission into the hospital; afterwards a cathartic, and antimonial powder. His body had been sponged with vinegar and water; camphor was exhibited; and bark and tincture of opium. Porter was allowed, and afterwards wine. On this day, his pulse was very quick and feeble; continual nausea; inclination to stupor; the countenance had an idiot-like stare; he had passed an involuntary stool in the morning. In this state of extreme and alarming debility, he was carried in a spring waggon seven miles into the country. On his return, he took some broth, and after it some wine, without nausea being produced. There was less stupor; his countenance looked better; and he had two voluntary stools in the course of the evening.—11th, He had a very good night. His pulse was not so quick: no nausea; his countenance looked better; no appearance of stupor. The day before, he could not sit up in his bed without support; and it was necessary to carry him to the spring waggon. This day he walked down stairs, and to the waggon, holding the arm of a comrade.

"I shall add another case, in which gestation was used with the same success;—and this occurred out of the army.

"*William Finch*, a pauper at Ipswich, aged fifty-five, in the month of January 1806, had been ill six days of typhus gravior; the medical attendant had said that his recovery was impossible, and discontinued his visits. The patient's wife applied to me; in consequence of which I visited him, and found him labouring under the following symptoms: Very feeble pulse; low delirium; subsultus tendinum; petechiæ; tongue dry, and dark-coloured. I asked his wife, if she could procure a cart and horse, to have him taken into the country five or six miles daily. The poor woman could hardly be prevailed upon to think me in earnest; but, upon my assuring her, that carrying her husband out was the only chance left for his recovery, she promised to obtain a cart the next morning early. However, I told her, if she could not obtain a horse to draw a cart, she should have my bat-horse, so anxious was I that the remedy should be tried in this apparently hopeless case. Gestation was tried the next morning, with evident advantage; in the evening of that day there was less subsultus tendinum; and the pulse was less feeble. On the evening of the second day of using gestation, the subsultus tendinum was entirely removed; the delirium was very considerably abated; and the pulse was stronger. On the evening of the third day, all the alarming symptoms had ceased; and, in five days more, gestation was no longer necessary, the patient being convalescent. It is worthy of remark, that no medicine was administered to this patient except tincture of opium, and once half an ounce of tincture of rhubarb.

"A daughter of this man, who was ill of this disease, (almost as dangerously so as her father), underwent the same mode of cure, with the like good effects.

"These cases came within the knowledge of Dr Hamilton of Ipswich, who, (on my requesting to know if he had any objection to his name being used in testimony of what is before mentioned), writes to me as follows: "That Finch and his daughter were relieved by gestation, is a fact which I have no hesitation in suffering my name to attest; and that the typhus was of the malignant kind, is likewise true."

"I remain yours sincerely, RICH. JONES."—p. 37.

Dr Hamilton has experienced also the good effects of gestation in the scarlet fever, as appears from the following extract of another letter to Mr Jones:

"I could furnish your friend with another fact of the utility of gestation; but it is in Scarlatina, not Typhus. A young gentleman, at school here, took the disease during an epidemic; it was among the worst cases of that fatal malady, and in the hottest weather in August. There were little hopes of his recovery; and he entreated to be taken home, a distance of eighteen miles. His parents came, and seconded his wishes, provided I would accompany him. Their coach was large; a bed was put in, and he laid on it. I followed in my carriage. The procession was slow. Twelve miles passed in half as many hours. We stopped to rest and dine. He was then revived greatly, and sat up a little at table, to please his parents. At length the journey ended, with his greater amendment. He slept comparatively well that night; was convalescent next day, and was well recovered in a week more."—p. 34.

We have deemed the above facts worthy of being more generally made known, than by the limited circulation of a thesis; and we think, that they will still be valuable, if they be only considered as establishing, in conjunction with the experience of Dr Jackson, the *safety* of removing persons, when labouring under the advanced stages of typhus fever. This is a measure, which circumstances may often render highly expedient, and which it is important to know, may be effected, without subjecting the patient to the risk usually apprehended.

X.

An Essay on the Entropeon, or Inversion of the Eyelids. By PHILIP CRAMPTON, Member of the Royal College of Surgeons in Ireland, &c. London, 1805.

In this ingenious essay, the author takes a cursory view of the various modes of treatment which have been proposed for the cure of the inversion of the eyelids, after which he makes some interesting observations on their natural structure and mechanism, and concludes with the description of a very simple and effectual mode of cure. Most authors have conceived that the entropeon arose either from a preternatural prolongation of the external integuments, or from a diseased action of the *levater palpebræ* muscle. Mr Crampton, after having shown the inconsistency of the theories on which these opinions rest, and the insufficiency of the practice founded on them for the cure of the disease, demonstrates, that the true nature of the disease is a contracted and thickened state of the conjunctiva membrane lining the eyelids.

In the natural state, he remarks, that the very lax conjunctiva, which is necessary for the free motion of the eyeball, is preventted from falling into irregular folds, and intercepting vision, by its accurate adjustment with the *levator palpebræ* muscle, for, "at the same moment that the *atollens oculi* acts in rolling the eye upwards, the *levator palpebræ* contracts, in order to remove the eyelid from before the axis of vision, and draws back with it the loose conjunctiva upon which it is inserted, and the tarsus with which it is connected." But should the conjunctiva, by any means, become so much contracted in its extent as to confine the free motions of the eye, it must necessarily follow, that, upon rolling the eye upwards and backwards, the tarsus, upon which the *conjunctiva* terminates, yielding, will be drawn inwards upon the eye. When the contraction increases, so that the folds are not only obliterated, but the internal membrane becomes actually shorter than the external integument, then the margin of the tarsus deriving no support from without, and constantly acted upon from within, readily yields, and becomes permanently inverted.

That a contracted state of the conjunctiva actually does take place in this disease, Mr Crampton was convinced of, for, in the first case which he examined, he found, that instead of the pale and polished surface of the conjunctiva of the eyelid, a granulated fleshy production covered the entire surface of that membrane; and this substance, as it proceeded upwards, completely filled up the triangular shaped space between the roof of the orbit and the superior surface of the eyeball, where the great fold of the eyelid should have been lodged. In some cases, however, the conjunctiva, though much contracted in its extent, is but little altered in its structure; and, in such cases, the above mentioned space is filled up by the thickened and œdematous cellular substance of the eyelid.

"A thickened and contracted state of the conjunctiva," says Mr Crampton, "being admitted as the cause of entropeon, the remedy becomes obvious. It consists in removing the stricture, and restoring the parts to their natural dimensions and position. The mere division of the conjunctiva from one angle of the eye to the other, is not sufficient to fulfil the first of these intentions; as its thickest and strongest fold is a little within the external canthus. In fact, it there forms the internal connecting ligament of the tarsi. In the natural state of the eye, this fold or ligament is sufficiently loose to admit of the separation of the tarsi to a considerable angle; but, when contracted by inflammation, the cartilages are so closely applied to each other, as in some instances to adhere, and thus diminish the area of the eye.

"The first great object of the operation is, the division of this ligament. This should be done so as completely to liberate the extremities of the tarsi towards the outer canthus. But as the extremities of the tarsi towards

wards the inner canthus, are confined, as well by the action of some of the fibres of the orbicularis, as by the contracted state of the conjunctiva, they must be freed from their connexion with both.

"The tarsus is then comparatively loose, and in the worst cases can with ease be everted. It remains but to perform the subsection of the eyelid, described page 21, to complete that part of the operation which relates to removing the contraction of the conjunctiva."—p. 46.

After this has been done, Mr C. proposes, that a speculum be applied so as to retain the eyelid in its natural position; and he makes use of the speculum of Mr Pellier for this purpose, employing, at the same time, a proper bandage to keep it in its place, until, by an alteration in the structute of the diseased parts, they are enabled to perform their original functions. "This alteration it easily effects; for, by its pressure, it gently stretches the conjunctiva, and promotes the absorption of its diseased growth; and thus, by removing both cause and effect, it combats the disease with the surest prospect of success." The practice recommended is fully illustrated by distinct cases, and drawings are given of the specula. We hope, that the sketch we have now given, will enable our readers to form a just estimate of the merits of this essay, and be sufficient to recommed the practice to their attention.

PART III.

MEDICAL INTELLIGENCE.

Letter to A. DUNCAN, jun. M. D.

SIR,

THIS paper, together with that on the external use of cold water in malignant fever, was written in 1769–1779, and sent to Dr John Fothergill, for the Medical Society of London, in the beginning of the year 1779. It was read several times; at first ordered to be printed, afterwards postponed, and laid amongst their archives.

It is probable that they thought this practice so rash and daring that they would not give their sanction to it.

The Society was soon afterwards dissolved by the death of Dr Forthergill, Dr Hunter, and Dr Solander; and, I, with some difficulty, recovered my papers from Dr Thomson, Secretary to the Society.

Dr Simmons published my paper on fever in 1786, but this paper on the small-pox never saw the light.

I sent it, with others, to Dr Currie, at Liverpool; it is the same he alludes to in the second volume of his Medical Reports.

I beg leave to present you with this copy, that, if you think proper, give it a place in your useful Medical Journal.

Edinburgh, 15*th Sept*. 1807.

" *On the External Use of Cold Water in the Small-pox. Communicated to Dr* FOTHERGILL, *and read by him to the Medical Society of London*, 1779. *By* WILLIAM WRIGHT, *M. D. F. R. S. &c.*

" In the year 1768, the small-pox was in a manner epidemic in Jamaica; it proved fatal to a number of people who took it in the natural way, but only to a few who were inoculated and properly treated.

" This disease became general about the months of April, May, and June, in the parish of St James. Such as had the disorder in the natural way, had a load of pustules, and often of the confluent kind. Sydenham's cool method of treatment was called

led to our remembrance by the success of the Messrs Suttons, and of Dr Dimsdale. But although a liberal use of cold drinks were allowed the sick, little benefit could be expected from cool air, in such a climate and season of the year.

" It is well known that the quantity and quality of small-pox depends on the *duration and violence* of the eruptive fever;—any expedient, then, to mitigate the one, would, of course, render the other more favourable.

" The Maroon negroes* in Jamaica, and some nations on the coast of Guinea, have a custom of plastering the bodies of such of themselves as are taken ill of the small-pox, and especially during the eruptive fever, with *wet clay*, and with such good effects as determined me to try the cold bath.

" So soon as a person was seized with the variolous fever, whether from inoculation or otherwise, I caused an assistant to throw cold water on their naked bodies every four or six hours. The consequence was a truce from the fever, from the headache and pain in the back; a glow succeeded, with a kindly perspiration. The eruption after this was for the most part favourable.

" In other cases, where the small-pox had made their appearance, and by their quantity, and the continuance of the fever, a confluent pock was apprehended, the cold bath not only abated the fever, but diminished the number of pustules, and the patients went through the disease easier. I do not recollect more than one person out of five hundred, treated in this manner, but what agreed perfectly well with the cold affusion.

" So soon as the eruption was completed, and the fever gone, I desisted from the external application of cold water; I kept my patients in cool air, and allowed them cold water through the whole course of the disease.

" The secondary fever was prevented, or greatly mitigated, by timely purging the patient; and so soon as the pustules were at the height, by discharging the contents by a needle or some sharp-pointed instrument †; by the bark, and sometimes epispastics. But where the fever run high, antimonial wine or James's powder was given; but in common, cooling laxatives, small doses of emetic tartar, with or without opiates, were sufficient; and lastly, the bark and port wine."

Extract

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* " Maroon negroes.—Soon after the English settled in Jamaica, a number of runaway negroes assembled in the mountainous places: They became formidable, and committed such ravages and depredations on the white inhabitants, as greatly obstructed the settlement of the country.—Governor Trelawny obliged them to capitulate in 1739."

† A practice common on the coast of Guinea.

Extract of a Letter from Dr Gairdner, dated St James's, October 24th 1778.

"The small-pox made their appearance in this parish, and it became necessary to inoculate the negroes on Green-park, and Castle Wemyss estates, and also those of the small settlements. The practice was the same as Baron Dimsdale recommends, only during the eruptive fever, we used the cold-bath, that is, we dashed cold water on their heads and in their faces, which had a remarkable effect in giving immediate ease; it carried off the fever, and no doubt lessened the eruption.

"At Castle Wemyss estate, when the negroes were feverish, I made them go in below the spout of water. They were so much pleased with its good effects, that they often went below it of their own accord. All of them had the small pox remarkably easy. One hundred and twenty of them were inoculated without any preparation; they were kept at easy work during the whole time of the disease, and were all able to go to their usual employment in 14 days after being inoculated.

"The same success did not attend the negroes on the small settlements, which I think was owing chiefly to their not using the cold bath."

Quarterly Report of Diseases treated at the PUBLIC DISPENSARY, *(near Carey-Street,) London, from August* 31*st to November* 30*th* 1807.

ACUTE DISEASES.

	No. of Cases.		No. of Cases.
Synochus	21	Hepatitis	1
Typhus	2	Peritonitis	1
Cynanche tonsillaris	4	Arthritis rheumatica	5
——— pharyngea	1	Enteritis	1
Variola	9	Rheumatismus	3
Rubeola	32	Cholera	2
Scarlatina	20	Apoplexia	1
Urticaria	4	Hydrocephalus acutus	3
Herpes zoster	2	Ophthalmia	1
Erysipelas	1	Otalgia	1
Catarrhus	43	Pertussis	3
Dysenteria	11	Febris infantum	3
Pneumonia	9	Abortus	1
Peripneumonia notha	6	Mania	1

CHRONIC DISEASES.

	Cases. No. of		No. of Cases.
Cephalæa	9	Pyrosis	1
Dyspepsia	7	Icterus	6
Gastrodynia	14	Morbi hepatici	2

Hæmatemesis

CHRONIC DISEASES continued.

	No. of Cases.		No. of Cases.
Hæmatemesis	3	Leucorrhœa	6
Enterodynia	11	Amenorrhœa	6
Verminatio	4	Dysmenorrhœa	3
Tabes mesenterica	4	Chlorosis	1
Hæmorrhois	5	Hysteria	4
Diarrhœa	11	Epilepsia	2
Hypochondriasis	1	Paralysis	3
Asthenia	23	Hydrothorax	3
Catarrhus chronicus	22	Anasarca	4
Asthma et Dyspnœa	3	Hydrops tot. corp.	7
Phthisis et hæmoptysis	21	Tympanites	1
Pleurodyne	3	Struma	1
Lumbago	5	Aphtha	1
Rheumatismus chronicus	18	Porrigo	3
Nephralgia	1	Prurigo	1
Catarrhus vesicæ	1	Impetigo	2
Enuresis	1	Scabies	1
Dysuria	1	Erythema cruris	2
Cancer uteri	1	Ecthyma	2
Menorrhagia	9		

The long period of warm weather was suddenly terminated early in September, wind N. W.; about the 20th the wind again blew from the south-west, and rain fell on several days towards the close of the month. The wind continued to blow from the same mild quarter, with a moderate temperature, to the third week in October, when several wet and stormy days ensued. November has been, on the whole, cold, wet, and stormy, with some smart frosts near the end of it, accompanied with fog.

The autumnal season appears to have been, generally speaking, healthy. The number of diseases, in the preceding list, is considerably smaller than is usual within the same period. The most prominent acute disorders have been eruptive fevers, and particularly the measles, which, during the months of October and November, have been very prevalent, and, when occurring in young children, have proved very fatal, by terminating in violent inflammation of the organs of respiration. In some cases this inflammation destroyed the patient in two days, notwithstanding a pretty active evacuation of blood; in others effusion appeared to take place, and a difficult, wheezing, and quick respiration, with expansion of the nostrils, and constant coughing, continued for many days, not in the least degree affected by local or general blood-letting, blisters, nauseating or emetic doses of antimony and ipecacuanha, nor by any other expedient. And the majority of patients, whose strength enabled them to surmount the disease, have, in general, suffered severely in the same way.

Two instances have occurred in which the measles interrupted the progress of other diseases. In one case the hooping-cough, which had continued above six weeks, was suspended by the occurrence of the measles, but returned on the decline of the latter. It was not in the inflammatory state, as Dr Adams * supposes those cases always to be which are thus superseded. Another child, about thirteen months old, had suffered, almost from its birth, a singular spasmodic affection of the larynx or trachea, insomuch, that it never awoke from sleep, or cried, or was startled, but respiration became immediately impeded, and was performed with a crowing noise, somewhat resembling that of croup, for many minutes. Medicine had no effect upon this complaint, but, on the occurrence of measles, the spasmodic attacks ceased, and they have not returned since the child's recovery.

The scarlatina was generally mild, presenting the eruption, accompanied with a slight sore throat. In one family it occurred under different forms; the father was found dying of the malignant sore throat, having had no eruption when application was first made to the Dispensary; the rest of the family went through the disease, exhibiting the eruption more or less. The early use of emetics, according to the recommendation of Dr Withering, appeared to render the disease milder, and abbreviate its course.

Of the small pox a few of the virulent cases only are to be found on our list; but it has been lately very prevalent and fatal: a circumstance much to be lamented, especially since a national testimony, as it were, of the existence of a safe preventive has been laid before the public. They who circulate the poison seem to forget or to disregard the mischief of partial inoculation, and the numbers which they weekly contribute to swell the bills of mortality. Whenever the poison is introduced among the habitations of the poor, it never fails to multiply its victims. We lately learnt that, in a court adjoining Shoe Lane, in the course of one month, *twenty-eight* persons had died of small-pox! The general interference of Government, in our domiciliary concerns, is doubtless to be deprecated; but, while we submit our seafaring men to the outlawry of the quarantine, (for its severity almost warrants that title) we can see no possible objection, on the grounds of despotic interference, to compelling those who *will* receive the variolous contagion, to confine its sphere to their own houses, and to restraining public institutions from communicating the poison to any one, unless they receive the inoculated into their wards, and dismiss them after the danger of infecting others is over.

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* Observations on Morbid Poisons.

Nov. 30th 1807. THOMAS BATEMAN.

Decomposition of the Fixed Alkalis.

We are informed, that, in the month of November, a paper of Mr Davy's, (Professor of Chemistry at the Royal Institution in London), was read at the Royal Society, containing a detail of experiments, by which Mr D. has succeeded in decomposing the fixed alkalis. He attempted in vain to effect this decomposition, when the alkali was in solution; but, on connecting caustic alkali, barely moistened, with the zinc end of a powerful galvanic apparatus, he found a globule of metallic matter, resembling quicksilver in its appearance, attached to the platina wire, used as a conductor; it appeared, also, with every conductor afterwards used. This metallic matter becomes malleable at a low temperature, *i. e.* we believe, below 40° of Fahr. Its specific is 7, taking water at 10, as ascertained by a comparative experiment in mercury; it has so strong an affinity for oxygen, that it explodes, with flame, immediately on coming in contact with water, or even the smallest moisture, hydrogen being disengaged. When placed upon ice, it immediately burns, leaving a small hole in the ice, containing the regenerated alkali. Thus, the experiment is both analytic and synthetic. The alkali consists of about 85 parts of the metallic base, and 15 oxygen. Mr Davy preserves this singular base in naphtha. These observations apply to potass. A similar base is obtained in the same way from soda, and is possessed of similar properties, but it resembles silver more than mercury; is congealed and malleable, only at a much lower temperature than the base of potass; and constitutes only 81 parts of soda, with 19 oxygen.

Mr Davy has also discovered oxygen to be one of the constituent parts of ammonia; and he has reason to believe, that the alkaline earths consist of a metallic base, of a similar nature with the bases of the alkalis in combination with oxygen; a subject which he is now investigating.

In the List published of the June Graduates, the names of nine gentlemen were omitted, viz. Drs J. Armstrong, J. Ayre, T. Bent, P. Gilroy, R. M. Hawley, J. Low, D. Plenderleath, G. G. Spilsbury, T. K. Wint, in consequence of an imperfect set of their Theses being sent to us. In our next we shall give a perfect List.

THE

EDINBURGH

MEDICAL AND SURGICAL JOURNAL.

1. APRIL 1808.

PART I.

ORIGINAL COMMUNICATIONS.

I.

Report from the Select Committee of the House of Commons, appointed to inquire into the State of Lunatics. Ordered to be printed, 15*th July* 1807.

THE Select Committee, appointed to inquire into the state of the criminal and pauper lunatics, in England and Wales, and of the laws relating thereto; and who were empowered to report their observations and opinions, together with their proceedings, from time to time, to the House;

Have inquired into the matter to them referred, and have agreed upon the following Report:

Your Committee, upon entering into this inquiry, have felt it their duty to state, in the first place, The laws now in force respecting the care and maintenance of Criminal and Pauper Lunatics:

Secondly, The manner in which they are now ordinarily kept:

Thirdly, The provisons and regulations which it has appeared to the Committee that it might be expedient to adopt in future.

CRIMINAL LUNATICS.

The only law relating to criminal lunatics, as distinguished from other insane persons, is the 40th Geo. III. c. 94. by which it is provided, That in all cases where it shall be given in evidence upon the trial of any person charged with treason, murder, or felony, that such person was insane at the time of the commission of such offence, and such person shall be acquitted, the Jury shall be required to find specially whether such person was insane at the time of the commission of such offence, and to declare whether such person was acquitted by them on account of such insanity; and if they shall find, that such person was insane at the time of the committing such offence, the Court before whom such trial shall be had, shall order such person to be kept in strict custody, in such place, and in such manner, as to the Court shall seem fit, until his Majesty's pleasure shall be known; and it shall thereupon be lawful for his Majesty to give such order for the safe custody of such person, during his pleasure, in such place, and in such manner, as to his Majesty shall seem fit: And in all cases where any person, before the passing of this act, has been acquitted of any such offences on the ground of insanity, at the time of the commission thereof, and has been detained in custody as a dangerous person, by order of the Court before whom such person has been tried, and still remains in custody, it shall be lawful for his Majesty to give the like order for the safe custody of such person, during his pleasure, as his Majesty is hereby enabled to give in the cases of persons who shall hereafter be acquitted on the ground of insanity.

This statute does, indeed, empower his Majesty to give orders for the safe custody of persons so found to be insane, in such place, and in such manner, as to his Majesty shall seem fit; but as no provision is made for defraying the charge of their maintenance and cure, except where they have sufficient property of their own, which could be applied to that purpose under 17th Geo. II. c. 5. s. 20. it has been in most instances impossible to remove them from the county gaol.

In the course of six years, which have elapsed between the passing of the act 40. Geo. III. c. 94. and the time of making the returns which have been referred to your Committee by order of the House, it appears, that no less than 37 persons have been detained under the provisions of this act, and are now confined in different jails, where, if paupers, they are necessarily maintained at the county expence.

This number will of course annually increase, particularly if, as at present, no means are generally adopted for the cure of persons under such circumstances; and, if the parishes upon whom the burden of the maintenance of a lunatic must otherwise fall, shall, in consequence of his committing an offence, be enabled to throw that expence, during the remainder of his life, upon the county at large, and thus profit by the omission of that care and precaution which it was their duty to have taken for his safe keeping.

The great inconveniencies which must necessarily result from a continuance of the present system are fully detailed in the evidence of Sir George Paul, whom your Committee, on account of his humane and unwearied attention to every thing connected with this subject, thought it their duty to examine: And they fully concur in his opinion, that to confine such persons in a common jail is equally destructive of all possibility of the recovery of the insane, and of the security and comfort of the other prisoners.

They have also to state a fact, in confirmation of this opinion, communicated to them by one of their members, which fell within his own knowledge: Aaron Bywater was acquitted a few years ago at the Great Sessions for the county of Montgomery, of a murder committed by him, under the influence of insanity, and was ordered to be detained in the county jail, where he still remains. In less than three weeks afterwards, he, though ordered to be strictly watched, was allowed, during an apparently lucid interval, to escape out of the jailor's sight, and murdered one of his fellow prisoners.

It therefore appears to be highly desirable, that a building should be erected for the separate confinement of all persons detained under the above-mentioned act for offences committed during a state of insanity; and that provisions should be enacted, similar to those of the 17 Geo. II. c. 5. s. 20. directing the Magistrates of the county where the trial has been had, in all cases where it shall not appear to them that the lunatic has sufficient property to defray the expences of his own maintenance, to inquire into the place of his last legal settlement, and to make an order upon such parish, or, if that cannot be ascertained, upon the county where he has been tried, to allow such weekly sum for his maintenance, as shall from time to time be fixed by the Secretary of State for the Home Department, or such persons as his Majesty shall appoint to superintend such place of confinement. As one establishment of this nature will be sufficient for the whole kingdom, it may be expedient that it should be in or near the metropolis, and that power should be given to the Secretary of State to make such regulations as may not only provide for the due care and management of the persons there confined, but may also ensure a full examination, by competent judges, into the state of mind of any person who may appear to be cured, previous to his being allowed his discharge.

PAUPER LUNATICS.

The earliest statutes upon this subject, viz. 17. Ed. II. cap. 9. and 10. relate to idiots and lunatics in general, and are said by Lord Coke to have been declaratory of the common law.

They vest the custody of their lands and tenements expressly, and of their persons impliedly in the king; but the royal authority under these acts having been exercised by the Chancellor, and not without a previous inquisition before a jury to find the idiotcy or lunacy of the party, it is evident that the forms and expences requisite were not calculated for the case of paupers; so that they are generally left to the protection of their friends and relations, or to the overseers of the poor.

The only act which refers expressly to the case of pauper lunatics is the 17th of Geo. II. c. 5. (already referred to); by the 20th section of which it is enacted,

"That it shall and may be lawful for any two or more Justices of the Peace, where such lunatic or mad person shall be found, by warrant under their hands and seals, directed to the constables, churchwardens, and overseers of the poor of the parish, town, or place, or some of them, to cause such person to be apprehended and kept safely locked up in some secure place within the county or precinct where such parish, town, or place shall lie, as such Justices shall, under their hands and seals, direct and appoint, and (if such Justices find it necessary) to be there chained, if the last legal settlement of such person shall be in any parish, town, or place within such county or precinct; and if such settlement shall not be there, then such person shall be sent to the place of his or her last legal settlement, by a pass, *mutatis mutandis*, as aforesaid, and shall be locked up or chained, by a warrant of two Justices of the county or precinct to which the person is so sent in manner aforesaid; and the reasonable charges of removing, and of keeping, maintaining, and curing such person during such restraint (which shall be for and during such time only as such lunacy or madness shall continue) shall be satisfied and paid (such charges being first proved upon oath) by order of two or more Justices of the Peace, directing the churchwardens or overseers, where any goods, chattels, lands, or tenements of such person shall be, to seize and sell so much of the goods and chattels, or receive so much of the annual rents of the lands and tenements as is necessary to pay the same, and to account for what is so seized, sold, or received, to the next quarter sessions; but if such person hath not an estate to pay and satisfy the same, over and above what shall be sufficient to maintain his or her family, then such charges shall be satisfied and paid by the parish, town, or place to which such person belongs, by order of two Justices directed to the churchwardens or overseers for that purpose." Under this statute several persons have been committed to houses of correction in different parts of the kingdom, and their condition there must be liable to al the same objections which apply to that of criminal lunatics i the jails, as above stated, except that their respective parishes a not in this instance relieved from the charge of their mainnance.

The number of other pauper lunatics in poor-houses nd houses of industry, according to the returns received, amounts to 1765, exclusive of 483 in private custody; but these are so evidently deficient in several instances, that a very large addition must be made in any computation of the whole number.

From the county of Southampton no return whatever has been received. The counties of Hertford, Bedford, Cumberland, and Cambridge, do not return a single lunatic; Essex returns only three, and Gloucestershire ten; while from Suffolk and Norfolk, and where the returns have since been corrected by the inquiries of Dr Halliday, whose detailed and particular accounts of those two counties have been laid before your Committee, the numbers amount to one hundred and fourteen in the former, and one hundred and twelve in the latter. Many other instances might be pointed out of the inaccuracy of these returns, but your Committee conceive these to be sufficient to justify them in recommending the measures hereinafter proposed, for enforcing a complete return from each county.

Even if the condition of the persons so confined in poor-houses were not so revolting to humanity, as from the evidence of Sir George Paul, and from the observation of different members of your Committee, it appears frequently to be; your Committee are of opinion, that there are other sufficient inducements to provide proper places expressly for the reception of lunatic paupers. In their present situation there is no probability of their cure, and they remain a burden upon the public as long as they live. In the asylum, which has for twenty years been established at York, nearly one half of the patients admitted have been discharged cured, and at St Luke's a still larger proportion.

In many instances, but particularly in the metropolis, parishes have adopted the system of boarding their insane paupers in private mad-houses, and it gives satisfaction to your Committee to report, from the evidence of Dr Willis, that their treatment in general appears to be extremely proper; but it is right to observe, that this depends wholly upon the good conduct of the keeper of such house, as, by the act 14. Geo. III. c. 49. regulating private mad-houses, the keepers are expressly discharged from reporting to the College of Physicians any parish paupers whom they may take in, nor have the inspecting commissioners considered themselves as required to examine into their situation.

The measure which appears to your Committee most adequate to insure the proper care and management of these unfortunate persons, and the most likely to conduce to their perfect cure, is the erection of asylums for their reception in different parts of the kingdom; a measure which has already been adopted with great success by private subscription at York, Liverpool, Manchester, Exeter, Hereford, Norwich, and Leicester. To this the public opinion appears to be so favourable, that it may be sufficient for the Legislature, at least in the first instance, rather to recommend and assist, than to enforce the execution of such a plan.

Your Committee therefore would propose, that power should be given to the magistrates of any county, to charge the expence of such building upon the county rate, or, where circumstances will admit of it, for two or more counties to unite for this purpose, the charge upon their respective rates being settled according to their population: That all pauper lunatics, within the district for which such asylum shall be erected, shall be conveyed thither, and be there maintained at the expence of their respective parishes, at such rate as shall be fixed by a Committee of Governors, nominated by the magistrates of the county or counties.

That annual returns of the number of insane persons, chargeable to each parish, shall be made at the Michaelmas quarter session.

In fixing the number of counties which it is expedient should unite for this purpose, it appears from the evidence of those best acquainted with the subject, that it would be highly desirable, for the purpose of preventing unnecessary expence, that each building should be calculated to contain as large a number as possible, not exceeding three hundred.

The advantage of this, independent of the saving in the original cost of the buildings, is apparent from the reports from the different asylums now established. The weekly expence per head for each lunatic at St Luke's, where there are three hundred, does not exceed 7s. 6d.; while at York, where there are one hundred and fifty-eight, it is estimated at 9s.; at Manchester, where there are one hundred, at somewhat more, and at Leicester and Exeter, where the numbers are much smaller, it varies from 13s. to 15s. Attention should also be paid to placing the building in such a situation as, from its vicinity, may insure the probability of the best medical assistance. For this reason, wherever an asylum has already been established by private contribution, great benefit may result from connecting the proposed establishment with it; and in all cases it may be desirable to allow the addition of an establishment for persons of a superior class, to be defrayed by themselves; and for those who are in a state of distress, though not actually parish paupers, to be maintained by charitable subscription.

Your Committee think it proper to lay before the House, a plan which has been submitted to them for the division of the kingdom into districts, for this purpose; the adoption of which, in each particular instance, must be governed by the local circumstances, of which the magistrates of the respective counties will be the most adequate judges.

Your Committee have received much valuable information upon the form of building and establishment preferable for this purpose, which will be found in the appendix, in the evidence of Messrs Nash and Dunstan.

APPENDIX.—No. 5.

MINUTES OF EVIDENCE.

Veneris 6° *die Martii,* 1807.

Sir George Onesiphorous Paul, Bart. called in, and examined.

Have you made any observations on the state of the jails?—Constantly, during the last 25 years.

Have you observed many lunatics in confinement?—Not until since the act of the 40th of his present Majesty, c. 94.

What has been the state of them?—To speak specifically of two, confined in the jail of the county of Gloucester, the one *Thomas Roberts,* who was tried and acquitted on account of lunacy, soon after passing this act; he was tried for a highway robbery, and, I have reason to believe, he was acquitted on a false plea of lunacy, inasmuch as he has been cook to the penitentiary house six years, and conducted himself as a man of sound mind. Also *James Need* tried for an assault at the Summer Assizes 1803, and remanded under the powers of the same act, to be kept in custody till his Majesty's pleasure shall be further known; and during that time, he has been maintained at the charge of the county, to the relief of the parish in which he is settled; this man is really insane, and probably dangerous to be permitted to go abroad.

How far do you conceive the best regulated jails to be proper places for the custody and cure of insane persons?—I think jails, however well regulated, are places highly improper for the custody, and inconsistent with the cure of lunatics. It is improper as a place of custody, because they must of necessity either be kept in society with other persons disposed to torment them, and aggravate their misfortunes, or they must be shut up in total solitude, in a situation completely inconsistent with any regard to their cure. I conceive, also, that to confine a madman together with criminals, would be dangerous to those with whom he was confined, and pregnant with disturbance; as the present system of constructing jails is calculated for the conveyance of sound.

Have you known any inconvenience arise from the noise and disturbance created by the confinement of lunatics within a jail?—I have an instance at present in the case of a debtor, who has been confined five years in the jail of Gloucester, for a debt so large as not to come under the intended benefit of the insolvent act, and who in his paroxysms is frequently heard in the streets at Gloucester, and of course disturbs, not only the persons within the prison, but also the inhabitants of the neighbourhood to a considerable distance, and has frequently excited, in the minds of the populace, an idea that some cruelty was exercising within the walls of the prison. I have also known an instance in the same jail, of a person brought in for debt, in a paroxysm of lunacy, and delivered to the Sheriff in that state, and who, although attended by the two physicians visiting that jail, and although he had every other possible assistance, died in the paroxysm in two days. I have also reason to believe, that there are many similar instances in other jails, and I am also of opinion that those instances will be most multiplied where they are best taken care of at the county expence.

Do you apprehend the necessary attendance upon a lunatic could be supplied at as cheap a rate in a jail, as at a house set apart for the reception of lunatics?—Every lunatic in a jail, either has or ought to have one or more persons, whose especial business it is to look after him. As in well regulated prisons, no more officers are kept than necessary for the ordinary business of the prison; in the case of the debtor above stated, two fellow-prisoners are constantly paid, each of them, to the amount of the county allowance, out of a fund appropriated to charity in that prison.

Have you observed the manner in which pauper lunatics are usually kept by the parish?—I have in many instances seen lunatics in parish poor-houses, but in no instance have I seen them kept with any regard to their cure; they are generally confined in some out-house or cell, or other place in which their noise gives least disturbance and trouble to the keepers of those houses. I have seen poor lunatics, not in the poor-house, who have been fastened to the leg of a table, within a dwelling-house; others chained to a post in an out-house; and in one instance I witnessed the case of a man shut up chained in an uninhabited ruin, and food daily brought to him from his relations, living at a quarter of a mile distance.

Have you made any calculation respecting the costs of providing for the maintenance and care of lunatics in a house properly established for their reception?—I did so in the year 1795, when I made my calculations on various numbers, from to 20 to 67 patients; it being evident that the individual cost of each patient will diminish in proportion as numbers increase to a certain extent; that the most economical establishment would be from 250 to 300. By my calculation in 1795, when there were 20 patients, I conceive the average cost would be 12s. 4d. per week, where there are 24 patients 11s. 1¼d.

	s.	*d.*		*s.*	*d.*
25 patients, . .	10	10¼	42 patients, . .	9	0½
26 ditto, . . .	10	7½	48 ditto, ...	8	6½
27 ditto, . . .	10	5	67 ditto, ...	7	6½
30 ditto, . . .	9	10½			

And I have reason to believe, that the 7s. 6¼d. in 1795 would now be 9s. 6d. and the other sums proportionably increased. But I beg leave to refer the Committee for further particulars on this subject to my scheme of an Institution, and description of a plan for a Lunatic Asylum, to be built at Gloucester, drawn up and published by me in the year 1796. In the above calculation I include board, medicine, attendance, and household establishment, but not the prime cost of the building, or the clothing of the patient. Withdrew.

Mercurii, 11° *die Februarii,* 1807.

Mr Thomas Dunston, Master to St Luke's Hospital.

Give an account of the establishment of St Luke's Hospital?—The officers and servants to St Luke's Hospital are as follows, viz. a physician, surgeon, and secretary, non-resident; an apothecary and his wife, a master and matron, six men and ten women servants, resident.

The average number of patients at one time in the hospital is 300; there are consequently 320 persons to provide for.

The convalescent patients assist in performing the household work.

The average number of incurable patients in the house at one time is 115, and there are waiting for admission 640 persons.

The average number of curable patients admitted annually is as follows:

Males, 110.—Females, 153.—Total, 263.

Of which number 60 are parish patients.

The numbers discharged are as follows:

Cured, Males, 37.—Females, 71.—Total, 108.

Uncured, Males and Females, 100.

Unfit from various causes, chiefly palsy, fits, pregnancy, &c. 28. Dead 27.

From the above estimate it appears, the proportion of females to males admitted is nearly 3 to 2; of females cured to males, nearly as 2 to 1.

The average of salaries to the officers is .	L.467	0	0
Ditto, wages to servants, . . .	303	19	2
Ditto medicines, ...	79	15	3
Ditto, house expences, viz. bread, meat, butter, cheese, bedding, ironmongery, &c. &c. .	5146	4	0
The average of ground rent and taxes is .	270	13	8
	L.6267	12	1
The building cost 55,000l. which, taken at an interest of 6 per cent. is . .	3300	0	0
The average of repairs is . . .	297	10	8
	L.9865	2	9

The average expenditure for each person, exclusive of the building and repairs, is . .	L.19	9	9
Ditto, inclusive of ditto, ditto, . . .	30	16	6
Ditto, for each person's board, bedding, and washing, &c.	16	1	9

What space of ground does the building occupy?—The ground, including yards, and gardens, three acres and an half, which we find fully sufficient.

How long have you been master of St Luke's?—Upwards of 25 years.

In what capacity was you in Bedlam?—Keeper. I was keeper there between seven or eight years; and I have only to observe further on the subject of the building, that, for the description of persons intended to occupy it, I think the rooms used only as sleeping-rooms, which are 10 feet 6 inches by 8 feet, would do equally well if they were only 8 feet by 7 feet. The width of the galleries at St Luke's in which the patients walk in wet weather, is 15 feet 6 inches, whereas a width of 12 feet would be sufficient.

Is St Luke's at any time wholly occupied with lunatics ?—Always.

What number will completely occupy it ?—Three hundred.

What space of ground does the building itself occupy ?—The building is 493 feet long, and 30 feet deep in the centre, the wings project from front and rear, 66 feet each.

What space do the yards and gardens occupy ?—There are two airing grounds for the use of the patients, containing about 2000 superficial yards each ; the front area is the length of the building, and 30 feet wide ; there is a kitchen garden and detached pieces, making in the whole about three and an half acres.

What is the number of apartments in St Luke's ?—The body of the house consists, on the ground floor, of the master's office and closet, the apothecary's office and shop, a dining and visiting rooms ; on the one pair, of a committee, physician's, and a waiting room ; on the two pair, of a master's, matron's, and apothecary's chambers, and a work room ; on the three pair, of five bed-rooms. There are seven galleries, each of which contains 32 single rooms, 10 feet 6 inches by 8 feet ; two rooms, four beds in each, 18 feet 4 inches by 9 feet 9 inches ; a sitting room, 28 feet by 13 feet ; a smaller sitting room for refractory patients, 10 feet, 6 inches, by 8 feet, and a servant's room, about 17 feet square. There are two attics in the building, containing five rooms each, in which the other patients are lodged ; there are also two privies, a wash-room, and three straw shafts.

N. B. The sitting room would be better was it wider, and the smaller sitting room should be larger, one privy, and one straw shaft would be sufficient.

How many kitchens ; if but one, of what size ?—A kitchen, 28 feet by 18 feet 6 inches, and scullery adjoining, 21 feet by 9 feet, a smaller kitchen, 18 feet by 15 feet, in which the servants dine.

How many wash-houses ; if but one, of what size ?—One wash house, 56 feet by 12 feet, one for foul blankets, &c. 27 feet by 12 feet.

N. B. It would be an advantage if the large wash-house was wider.

How many laundries ; if but one, of what size ?—A drying room 15 feet square, heated by a stove, and a mangling and ironing room, 26 feet by 11 feet.

N. B This is hardly wide enough ; besides the kitchens, &c. above stated, there are on the ground floor, baths, a laboratory, coal-cellars, and water-engine.

Whether the present building is, in your opinion, sufficiently commodious for the number and description of lunatics now specified by you to have generally occupied it?—Yes, with the exceptions above stated.

Whether the same sized building, which has commodiously supplied all the wants and comforts of that number and class of patients now described by you, would have had, within itself sufficient accommodation, provided 35 of the specified number of lunatics had been paralytic, and a like number of 35 had been in a state of bodily weakness?—No; but I am of opinion there will never be more than half that proportion paralytic, or out of health.

Do not 100 lunatics, of a weak and infirm and a paralytic description, require more room, more care, more attendance, and more expence, than the same number not affected with bodily diseases?—Yes; a number of 100 would require two additional nurses.

What additional number of attendants would be required, if a fifth of these 300 were paralytic, and otherwise weak and infirm?—One man and one woman.

What additional expence in wine, spirits, medicine, and nourishing diet, would 10 paralytic and weak lunatics require, over and above the same number of 10 of that description kept in St Luke's?—From 2s. to 3s. per week each.

What food are the lunatics generally supplied with in St Luke's?—Breakfast, water gruel with bread, butter, and salt. Dinner, on Sundays, Tuesdays, Thursdays, and Fridays, mutton, beef, veal, and sometimes pork, with the best table beer; on Mondays, Wednesdays, and Saturdays, broth. Supper, bread and cheese, or bread and butter, with beer; a larger allowance on broth days.

Whether, for the most part, the lunatics in St Luke's are not provided with the same food, in compliance with a general system, (deviating, no doubt, at times in some peculiar cases?)—Yes; the deviations are in cases of illness, when beef-tea, broth, sago, wine, &c. are given.

What is the greatest number of lunatics allowed to occupy one sitting room?—About 30.

What size is the room the greatest number occupy?—28 feet by 13 feet.

What is the greatest number of lunatics allowed to sleep in any one room?—Four in a state of recovery.

What is the size of the room in which the greatest number sleep?—18 feet, 4 inches, by 9 feet.

What size are the beds? what the cost? are the bedsteads iron?—The bedsteads are of wood, 6 feet by 3 feet; moveable ones cost 2l. 18s. fixed with leaded drawers, &c. 3l. 3s.

In general, after lunatics have been under an uniform management at St Luke's, is it necessary that one in ten should be under direct coercion?—It is not easy to average the number of patients in ten that require a continuance of coercion; I think they may be about three in twenty; they are patients disposed to injure themselves or others, and are seldom or ever to be trusted with confidence; much is certainly to be done by management; but it is impossible, on this head, to lay down a general rule, each effort must be adapted to the peculiar indisposition; it is necessary to check some, to encourage others, and to animate all with a hope of recovery.

Do not a great proportion of lunatics, by a firm and uniform management, and by habit, become tractable, which lunatics, if allowed to separate and follow their own wills, would soon be unmanageable without coercion?—Yes, a large proportion.

Are there any idiots in St Luke's, or such like?—They are not allowed by the rules of the Hospital.

How many floors are there for the reception of patients at St Luke's?—There are four, including the basement.

Do you find any inconvenience arise from the number of floors?—None.

Does it appear to you necessary, that in a lunatic ward the bedrooms for the patients should be placed on one side only of the galleries?—In St Luke's they are double at each end, for the space of near 30 feet.

What is the whole length of one gallery?—About 120.

Have you found any advantage from the cold baths, for the use of lunatic patients?—Yes, by washing and keeping them clean in warm weather. Withdrew.

Mercurii, 4° *die Martii*, 1807.

JOHN NASH, Esq. called in and examined.

I HAVE turned my thoughts to the construction of a Lunatic Asylum.

For what Aslyum did you furnish plans?—For an Asylum by subscription for the county of Hereford, for an Asylum at Exeter, and for an Asylum at Gloucester, not yet executed.

Can you inform the Committee of the comparative expence in building Asylums for different numbers of patients?—I can.

What would be the expence in building an Asylum, according to Sir G. Paul's plan, for 50 patients in London?—Upon the supposition that the building is to be erected of brick; that the walls are to be two bricks in thickness; the dining room 21 feet by 12; the wards 12 feet by 10 feet, and 10 feet in height;

that the overseer's room is to be 14 by 12; that the floors and ceilings, and walls and partitions, are to be lined with elm boards; that the floors and partitions are to be filled with sawdust, to prevent the communication of sound; that the buildings are to be covered with slate, with dripping eaves; two water closets to be erected in each division of ward—the cost will be as under:

For the wards and gallery, - -	L. 7000	0	0
For the eating room, overseer's room, water closets, stairs to yard, cisterns and water closets appertaining to those wards, exclusive of general offices, - -	760	0	0
	L. 7760	0	0

Supposing the general offices to consist of the offices described by Sir G. Paul, in his scheme for the Gloucester Asylum, kitchen, scullery, two larders, a pantry, a laundry, and wash-house, and servants' eating room, and cellars on the basement floor; a surgeon or apothecary's room, a room for his medicines, a room for his books and papers, which is also to serve as a committee room; a hall of inspection, with staircase and gallery of inspection for the upper wards; a housekeeper's room; a store room; a bread room; hot and cold bath; a waiting room; and a passage of entrance, to be built of the like materials of the wards;—will cost, together with the bed rooms for the domestic officers, L. 3100.

What will be the expence of adding a third ward, to contain 25?—On the foregoing data, L. 3880. Withdrew.

Lunæ, 9° *die Martii*, 1807.

Dr WILLIS called in, and examined.

How long have you been a Commissioner under the act of Parliament of 14th George III?—About a year and a half.

During that time, have you had frequent opportunities of observing the manner in which the pauper lunatics are taken care of in the different private mad-houses within the district of London and Middlesex?—I have repeatedly visited the houses within that district during that time, but, in general, I have reason to think, that the inspection of the commissioners has been productive of considerable improvement.

Has it in general met with your approbation, or have you observed any want of due care and management?—In general it has met with my approbation; in some instances I have observed the want of attention to cleanliness, and, in general, want of accommodations.

Are they in general allowed a sufficient space?—I think in general they are.

What degree of medical attendance do you think necessary in a house for the reception of lunatics?—In my opinion a house should have the daily attendance of a medical person.

Do patients of any particular description require any particular accommodation, with respect to their apartments, or to their food, or otherwise?—Certainly; including the paralytic, the infirm, and the violent, require each a separate plan of treatment; the infirm will require a more nourishing sort of food, and warmer apartments, and separation from the rest of the patients.

Are you of opinion that warm and cold baths are necessary for lunatic patients?—I think warm baths may be very useful; but it can seldom happen that a cold bath will be required.

Are you of opinion, that, in such a house, it is necessary the convalescent should be separated from the other patients?—I do not think, in general, that such a separation is called for; not having found from experience any disadvantage arise from the want of it.

Do you consider it to be at all disadvantageous that a lunatic should be removed to a distance from his friends?—I do not conceive it to be disadvantageous in general, in some instances even advantageous. Withdrew.

APPENDIX.—No. 8.

Plan for the Division of the Kingdom into Districts, for the Erection of Lunatic Asylums.

	COUNTIES.	Population.	Population of each District.	Places of Asylum.
1.	Northumberland	157,101	476,309	DURHAM.
	Cumberland	117,230		
	Westmoreland	41,617		
	Durham	160,361		
2.	Lancashire	. . . .	672,731	LIVERPOOL.
3.	Yorkshire	. . . .	858,892	YORK.
4.	Cheshire	191,751	444,536	CHESTER.
	North Wales	252,785		
5.	Derbyshire	161,142	510,049	NOTTINGHAM.
	Nottinghamshire	140,850		
	Lincolnshire	208,557		
6.	South Wales	288,761	523,534	HEREFORD.
	Hereford	189,191		
	Monmouth	45,582		

	COUNTIES.	Population.	Population of each District.	Places of Asylum.
7.	Salop	167,239	545,725	SHREWSBURY.
	Stafford	239,153		
	Worcester	139,333		
8.	Leicester	130,081	486,384	LEICESTER.
	Rutland	16,356		
	Warwick	208,190		
	Northampton	131,757		
9.	Cambridge	89,346	443,928	CAMBRIDGE.
	Huntingdon	37,568		
	Hertford	96,577		
	Essex	226,437		
10.	Norfolk	273,371	483,802	NORWICH
	Suffolk	210,431		
11.	Somerset	273,750	524,559	BATH.
	Gloucester	250,809		
12.	Oxford	109,620	389,672	OXFORD.
	Berks	109,215		
	Bucks	107,444		
	Bedford	63,393		
13.	Middlesex	. . .	. . . .	LONDON.
	London, Westminster, and Southwark	. . .		
	Surrey	. . .		
14.	Cornwall	191,751	534,752	EXETER.
	Devon	343,001		
15	Dorset	115,319	520,082	SALISBURY.
	Wilts	185,107		
	Hants	219,656		
16.	Sussex	150,311	457,935	CANTERBURY.
	Kent	307,624		

II.

Observations on the General Treatment of Lunatics, as a branch of Medical Police. By ANDREW DUNCAN, jun. M. D. Professor of Medical Jurisprudence in the University of Edinburgh.

LUNATICS are incapable of managing their own affairs, and are, with justice, considered as not responsible for their actions. On both accounts, their general superintendence devolves upon the state as a duty. These unhappy people stand in need of its protection, to defend their rights against the encroachments of others; while the public, on the other hand, is entitled to expect, that every precaution should be taken to prevent them from injuring others.

But, although the ultimate responsibility, in whatever concerns lunatics, devolves upon the state, it is by no means necessary, that it should take upon itself their immediate management. This very troublesome office may be entrusted, either to the relations of these unfortunate people, to the keepers of private mad-houses, or to the managers of public institutions. All of these must, however, be considered as responsible for their conduct to the state, and ought to be subjected to strict and judicious regulations, to prevent them from neglecting or abusing the trust thus confided in them.

The treatment of lunatics has three principal objects in view; their comfort, their recovery, and the security of the public. Every arrangement to attain these may certainly be made by individuals who undertake the management of a deranged relation; and, under their protection, the patient might be expected to enjoy every assistance and comfort, of which his situation admits. But it is almost impossible for the state to superintend the treatment of lunatics who are kept at home, so widely must they be dispersed over the country; and among the higher classes of society, indulgence, inexperience, or neglect, may endanger the safety, or diminish the comforts of their neighbours, while unprincipled relations may, under the pretence of insanity, deprive of liberty, and of all means of redress, an individual, whose free exercise of his natural rights impedes the gratification of their ambition or avarice. The lower classes have not these motives for unnatural cruelty; but from the want of proper accommodation, a lunatic cannot be kept at home, with comfort to himself or his relations, or with safety to the public. Upon the whole, the domestic treatment of insanity is liable to many and strong objections.

Private establishments for the reception of lunatics, especially when they are under the immediate management of a humane and intelligent medical practitioner, may fulfil all that can be reasonably expected, in regard to accommodation, security, and treatment, both medical and moral. In reality, excellent private mad-houses are to be met with, in various parts of the country; but it cannot be denied that some of them are disgraceful nuisances, and that they are liable to the greatest abuses. From improper construction, being almost never built on purpose, they are deficient in accommodation for the patients, and insufficient for public security. Instances of lunatics escaping from private mad-houses do not unfrequently occur; while, on the other hand, unnecessary, or hurtful personal coercion must often be employed, to make up for the defects of the building.

Few speculations can be more unpleasant than that of a private mad-house; and it is seldom, if ever, undertaken, unless with the hope of receiving large returns on the capital advanced. It is undoubtedly the real interest of their proprietors, to establish a reputation for kind and successful treatment; but with those who prefer immediate profit, the temptation of keeping their house full, perhaps too full, may lead to the worst abuses. Where, indeed, the relations of the patients are kind and vigilant, even when the selection of the person to whose care they are entrusted is injudicious, there will always be such a check upon his conduct, as will prevent any very great abuse from taking place.

But the strongest argument against the toleration of private mad-houses, is the great facility which they afford for unjust confinement, at the instance of unnatural and mercenary relations. From the very nature of a mad-house, it is a place of constraint and concealment. Chains, darkness, and anodynes, are a part of its apparatus. Within its walls it contains no uninterested competent witness of the transactions which may occur. From its inhabitants expressions of indignation at illegal confinement, and appeals to humanity and protection, are, in general justly enough, disregarded, as the ravings or artifices of insanity. "Neque credendum est," says Celsus, "si vinctus aliquis, dum levari vinculis cupit, sanum jam se fingat, quamvis prudenter et miserabiliter loquatur quoniam is dolus insanientis est." What a dreadful situation for persons decoyed, or carried off, by force, into such a place! How are they to make their grievances known? Those who ought to protect, oppress them. Those, who alone are entitled to investigate, give a false report of their situation. They are carefully deprived of all communication with their real friends. Accidental visitors avoid them, or hear their complaints with incredulous pity. It is, indeed, scarcely possible to visit a mad-house, without being supplicated in terms so moving, or appealed to with indignation so natural, that, in any other situation, they would claim attention, and have the desired effect. From these considerations, we should almost be led to suppose, that confinement in a mad-house was to be regarded as a sufficient proof of insanity; and, that they were only kept by men above the reach of corruption, and worthy of unlimited confidence.

In this part of the United Kingdom, I believe, any person, however notorious or suspected his character may be, is permitted to keep what is called a private mad-house. He is not obliged, by law, to observe any regulations, with regard to the admission of those sent to him; he is not required to report the names or condition of those confined; and he is subjected to no regular and stated visitations of commissioners, capable of investigating his conduct. What security, then, has the public against the enormities which may be committed, by means of such institutions? As they are at present constituted, liberty, even life itself, may be sacrificed with impunity, to cruelty and avarice.

Lunacy, I believe, is not less frequent in proportion here than in England, nor are the laws regarding it more perfect than they were there, before the passing of the act. The keepers of private mad-houses, to take away all responsibility from themselves, generally require an order from the Sheriff, before they admit a patient; the Sheriff, for the same reason, before he grants an order, requires a certificate of lunacy, from a medical practitioner. But, in a profession which is so numerous, and so extensive, it is scarcely to be supposed, that some may not be found to grant a certificate on improper grounds, or from being imposed upon by those who ask it. A case in point occurred to myself. I was called to a woman, by her husband, who endeavoured to prepossess me with the idea that she was deranged; but, after repeated visits, I refused a certificate, as I found her imputed fits of insanity were merely paroxysms of rage arising from provocation on a temper naturally violent. Some days afterwards, while occupied about her domestic affairs, she was hurried off to a private mad-house, whether with a certificate or order, I never could learn.

The Sheriff has also the power of examining private mad-houses, at any time he may judge proper; but he is not obliged to do it; from his other numerous avocations, he is unable to do it frequently; and, in fact, seldom does it, except for some particular purpose, or in consequence of a special complaint; and even if he was willing to exercise his powers over them effectually, they may easily escape his vigilance, as they are not reported to him.

Lunatics may be treated under the public superintendence, either in institutions appropriated to that purpose, or as connected with some other object. To the treatment of lunatics in a general hospital, the injury done to the other patients, by their noise, is an insuperable objection; and hence they are no longer willingly admitted into the Infirmary of Edinburgh, although, in the original plan, apartments were allotted for them. The connection of cells for madmen with a general poor-house, a practice which was formerly very prevalent, but is now laid aside, wherever reason and humanity have been considered in the arrangements, is still more objectionable.

Work-houses are deficient, in every moral and physical means, for restoring lunatics to reason. Their servants are coarse men, ignorant of the delicate and complicated management of mental derangement, and generally treat these unhappy beings with brutality, as a troublesome and oppressive appendage. At best, they form but a very secondary object of attention; and, that the other inhabitants of the work-house may be less disturbed, they are locked up in remote cells, where they are deprived of fresh air, exercise, and recreation; covered with filth, exposed to cold and damp, and kept in continual irritation, by the horror of their situation, and the incessant cries of their neighbouring sufferers. This picture, which is almost copied from Reil, is not overcharged in the colouring. The keeper of lunatics, confined in the cells of such a work-house, when asked how they could possibly endure the cold of winter in such damp exposed dungeons, gave, as a very satisfactory reply, that " madmen did not feel cold; and that, besides, in the night-time, the door, (the only aperture,) was closed, which made them quite warm and comfortable." In other words, they were suffocated in the effluvia of their own bodies, to preserve them from perishing with cold.

But public institutions, appropriated for the reception of lunatics, under proper management, are, upon the whole, liable to few objections, and possess many advantages. The building may be so constructed, as to combine perfect security to the public, with the greatest possible degree of liberty and comfort to the patient. The experience and information of their officers and servants ought to be very great. Their general superintendence is easy. The number of checks will prevent misconduct, or abuse, to any considerable degree, in any department; and, lastly, the expence to the individuals, and to the public, is the smallest possible.

But while I am inclined to give the preference, in general, to public lunatic asylums, I am neither disposed to agree with Reil, in proscribing private mad-houses altogether, nor am I insensible to the arguments in favour of the domestic treatment of insanity. Each of them may be best adapted to particular cases; and, by tolerating all of them under judicious regulations, a kind of competition will be excited, advantageous to the patients, and useful to the public.

According to the report of the Committee of the House of Commons, appointed to inquire into the state of criminal and pauper lunatics, there are several defects in the laws of England as they now exist, and it is proposed to bring a bill into Parliament to remedy these defects. But it appears to me, that, instead of bringing in a bill to amend the errors, and supply the defects of former bills, that it would be conferring a much greater public benefit, to revise and consolidate the whole laws regarding lunatics into one act, and to extend the operation of that act to Scotland and Ireland, as well as to England.

I am aware that the difference in the poor-laws in these countries will create some difficulty with regard to pauper lunatics; but the difficulty may be obviated, and pauper lunatics are, in many respects different from other paupers, as they are not only poor, but incapable, by any exertion, even by begging, of relieving that poverty, and not only helpless, but dangerous.

The duty of securing and maintaining them may, in different countries, legally devolve on a different description of persons; but it must attach somewhere, and it is certainly as necessary to enforce the fulfilment of that duty in Scotland and in Ireland as in England.

In all enactments with regard to the general superintendence of lunatics, two objects must be always kept in view.

1. That no person be confined, or excused from performing his civil duties, or escape punishment for his crimes, on the ground of lunacy, who is not actually deranged.

2. That every insane person be confined and properly taken care of, so as, if possible, to restore him to reason.

Whatever regulations may be thought necessary to carry these views into effect, it will be necessary to appoint commissioners, with powers to enforce them. Such commissioners already exist for England; it would be necessary to appoint others for Scotland and Ireland; but as immediate and personal inspection is necessary, there should also be deputy commissioners in each county, or in each district of extensive counties.

It would be the duty of these deputy commissioners to see that no lunatic was permitted to go at large; to keep regular lists of the lunatics reported to them; to inspect occasionally and unexpectedly all lunatics within their district, whether under domestic treatment, in private mad-houses, or in public asylums; to make regular reports to, and to carry into effect the orders of, the general commissioners.

The general commissioners would have to superintend and regulate the whole; to grant no license for keeping a mad-house, except to persons of good character, or who produce sufficient security for their good behaviour; to grant permissions for the domestic treatment of a lunatic, upon receiving sufficient security that such permission shall not be abused, or prove a nuisance to the neighbourhood; to levy fines for keeping a private mad-house without a license; for confining a lunatic in a private house without permission; and for not reporting a lunatic within a reasonable time after his derangement; to publish annually a list of private mad-houses, and the number of lunatics they may receive at a time; to deprive of their licenses the keepers of private mad-houses who may prove unworthy of the trust, and to remove into a public asylum any lunatic whose friends neglect or maltreat him; to keep regular records, and to produce these records when legally required in any court of justice.

In writing these observations, my chief object is to call the attention of my professional brethren to the state of lunatics, and the laws, or rather the total deficiency of laws, regarding them, in this part of the island.

The appointment of a committee for inquiring into the state of criminal and pauper lunatics in England, is a proof that the legislature is not unwilling to devote a part of their attention to the subject; and it has appeared to several zealous friends of humanity, that this is a favourable opportunity for directing that attention to the other parts of the empire.

To render the application they are making for that purpose more effectual, they wish to obtain all the information possible on the subject; and I have been requested, through the medium of this Journal, to solicit from its readers answers to the following queries, together with any hints or observations at all connected with them.

First, If in the county towns, or within the counties adjacent, within the knowledge of the correspondent, there are any asylums for insane persons, public or private?

Secondly, The numbers such institutions can accommodate, or do contain; and what claims or yearly allowance is required for admission, and how the funds are supported and managed?

Thirdly, The regulations of such asylums with respect to medical treatment; attendance or inspection by medical people, magistrates, and sheriffs?

Fourthly, The numbers annually admitted and dismissed; pronounced incurable; or who die?

Fifthly, As to the regulations for diet, exercise, clothes, beds, and bedding, and the use of hot or cold baths; keepers and under attendants; and the employment of convalescents?

Sixthly, If in the towns or adjacent country, any insane persons are seen wandering about?

Seventhly, If any insane persons are confined in the county jails or work-houses, and their treatment there; if criminals, of what they are accused, and how long they have been confined?

Eighthly, Do you know of any objections against extending the English acts with regard to lunacy to this part of the empire?

Ninthly, Can you suggest any amendment to these acts, either generally or peculiarly applicable to Scotland?

III.

A Report on the influence of a Moist Atmosphere in aggravating the form, and retarding the cure of the Infectious Ophthalmia, drawn up by desire of Deputy Inspector FERGUSON, *by* JOHN VETCH, M. D. Assistant Surgeon with Ophthalmia Detachments at Riding Street Barracks, 12th August 1807.

IN the summer of 1806, while doing duty with the 2d battalion 52d regiment, when the ophthalmia, with which that battalion has been so severely afflicted, prevailed in its most violent form, my attention was forcibly struck with the intermittent form under which it appeared in a great proportion of cases. The frequency of the observation readily inclined me to believe, that this symptom, if not an essential in its character, was one which, under particular circumstances, it was very liable to assume; and, in my endeavour to investigate whatever might conduce to a better knowledge of the nature and the treatment of this ophthalmia, I was naturally led to its association with those physical causes which might be supposed to correspond with the peculiar type which it then presented. The conclusion which my earlier inquiries inclined me to adopt, I have now the satisfaction of supporting with the evidence arising from a twelvemonths unremitted attention to the disease, under the most extensive opportunities for observation and experiment. The importance of the object will, I trust, excuse a brief recapitulation of the facts on which I originally grounded the opinion.

It was then stated, that the barracks at Hythe, where the disease first assumed in this country its violent form, are situated on the borders of the extensive marsh of Romney; that the barracks of Riding Street, where it underwent a most remarkable aggravation, are situated more to the centre of this marsh, and, consequently, more exposed to whatever agency it may be capable of producing; that, on the removal of the battalion to Maidstone, the opthalmia there assumed a milder form, which it again exchanged for one more violent on the return of the battalion to Riding Street. I at that time also noticed the striking circumstance which accompanied the aggravation of the disease in the 54th regiment of foot, in which it had been disseminated to a considerable extent, without having produced a single instance of its violent form until the 24th of September, when, after a very heavy fall of rain during the night, to which the men affected with the ophthalmia were more particularly exposed, by being at the time under canvas, the whole number of patients, to the amount of 34, were found, in the morning, with their eyes completely closed by the swelling of the palpebræ, attended with the excruciating pain, the purulency, and other symptoms of the disease in its most alarming and inveterate form.

During my attendance with the 54th regiment, from the last mentioned period to the present, the changes in the state of the disease have been uniformly influenced by those of the weather, and have afforded the most unequivocal proofs of the deleterious consequences which result from an increased humidity of the atmosphere.

The healthy part of the 54th regiment marched from Ospringe on the 20th October, leaving behind a detachment of 240 men affected with ophthalmia. This detachment remained at Ospringe and Faversham, together with 50 men of the 89th regiment, and as many of the 95th, until the 14th of February 1807, when they were removed to the barracks at Riding Street, where (with 140 men of the 43d, 52d, and other regiments affected with the same disease) they still remain. During the whole of this time, making a period of ten months, the disease has been so uniformly aggravated in wet or foggy weather, as to attract the attention of every person connected with it; and the minds of the men have been long prepared to receive it as a necessary consequence of those states of the atmosphere, to the minutest variations of which they become sensible, in a very remarkable degree. A return of dry weather, on the other hand, has been equally serviceable to their recovery from every stage of the disease, whether caused by the frost of winter or the hot sunshine of summer. I cannot positively say under which of these states of the weather the most general improvement has taken place, although I am inclined to believe, that the hottest weather, if clear and accompanied with sunshine, is the most beneficial to convalescents from the ophthalmia; but, unfortunately, under the present circumstances, it is connected with other causes which lessen the general good it would otherwise produce. To exemplify the general changes experienced in the state of the disease, under the variations from moist to dry, I have subjoined ed a short abstract of the state of the detachments under my care for May 1807 *.

It seems unnecessary to dwell on the general fact, that the disease is aggravated by moisture, the truth of which may at all times be ascertained by inquiry, and which is consonant with the opinion expressed by ancient authors, whose authority in this disease is most to be relied upon. It is also adverted to, I find, by a modern author † of no common share of observation.

There remains to be noticed a point which, although subordinate to the general question now stated, is, from the contracted sphere of its action, an object of more practical importance.

In the summer months, not only an actual fall of rain, but the cloudy and sultry weather which usually precedes a thunder shower, and during which the evaporation from the surface of the earth is less speedily removed, is productive of the same bad effect on every stage of the disease. When these variations are therefore so evidently affected by those changes in the atmosphere itself, by which its humidity is increased, it is not at all wonderful that the same quality, if induced by other means, should be productive of similar consequences, but still less so when arising from the evaporation of a wide extent of marshy ground, which affords, at all times, a source of moisture specifically detrimental to the human frame.

I have already remarked the influence which these causes seemed to produce in the case of the 2d battalion 52d regiment. I shall, in a manner equally brief, observe the general history of the 54th, as connected with this circumstance, together with the detachments

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* To the 6th of May 1807, the weather was hot and dry, and at that time there was no acute case of ophthalmia in the hospital. On the afternoon of the 6th, there was a very violent shower of rain, accompanied with thunder and lightning; three relapses instantly occurred, and the eyes of the whole became watery and inflamed; and in the detachment 43d, under the care of Dr Walker, assistant surgeon 52d regiment, where the cases were more active, the relapses were more numerous. The weather continued wet until the 12th, during which time relapses of ophthalmia, and intermittent, occurred every day; from the 12th to the 25th, the weather was very fine, and a single case of relapse did not occur. On the evening of the 25th it became sultry, with a thick fog off the marsh, and continued cloudy for some days, during which time relapses occurred daily.

N. B.——The above report being taken from detachments in whom the remains of the disease had become chronic, gives a very faint idea of the general changes which the same state of the weather produces on a number of men in the earlier stages of the disease.

† Vide Scarpa on the Diseases of the Eye.

detachments of other regiments, which, along with it, have been under my care since October 1806.

The situation of Ospringe and Faversham, where the disease of the 54th, not being opposed by any decided treatment, committed all its ravages, is low, and in the immediate vicinity of marshy ground, and extensive collections of still water. The barracks at Riding Street, to which it was afterwards removed, are situated, as has already been observed, in the more extensive marsh of Romney.

As, on the removal of the healthy part of the regiment, there was no accession of new cases, those which were left under my care gradually advanced to a stage of convalescence; and, before leaving Faversham, a space of three months, a detachmen of 75 men, perfectly recovered from the slightest remains of the disease, were marched to join their regiment at Portsmouth.

Of the remaining part of the detachment, which was removed in February to Riding Street, although originally affected with the disease at the same time with the others, only 45 men have been discharged well after a lapse of six months, and of these a considerable number were returned as well before leaving Faversham. I am still more concerned to say, that the recovery of the detachment, since its removal to Riding Street, is slow, and often retrograde, as it has been yet more rapid than in the other detachments under my care; and, besides the tedious recovery from the remains of the disease, without any addition of new cases, there is, at this date, a greater number of men labouring under the acute state of the disease than there was when we left Faversham six months ago.

From the full force of these facts I know of nothing to deduct, but to which I may farther add, that since the removal to Riding Street, the intermittent form of the disease has again become particularly marked.

This form of the disease is always a proof of its inveteracy. I do not consider it of any farther practical importance than as affording a more intimate proof of the effects of situation.

The effects of the marsh which surrounds the barracks at Riding Street, in almost every direction, are sensibly perceived in the dense white fogs which arise from the surface in the night, in wet weather, it aggravating the deleterious effects which at all times attend it; and as these fogs are often heavier after the hottest days, the good which would otherwise be produced is more than counterbalanced by the evil, for, whenever the fog is more than usually thick, its effects are proportionably exemplified.

The progress which might have been made in the recovery from the disease during the summer months, but for the local disadvantages under which we have laboured, may be inferred from the rapidity with which it advanced, during a short succession of very hot and dry weather in the month of July, and unaccompanied with the fogs above described, when not less than one half of the total number of men who have recovered since our arrival at Riding Street were discharged in that state. From the impression which similar observations made in my mind during the summer of 1806, I ventured an observation, which has as yet been confirmed by the event, that should the disease accompany the 54th regiment to the warm climate to which it has been removed, it would, unless exposed to the causes which it is the object of this report to point out, assume a milder form than it possessed in this country. This observation is farther confirmed, by the prevalence of the disease at Gibraltar and other foreign stations, with less severity than at home; for it is a melancholy circumstance, the truth of which I have been fully able to ascertain, from the great proportion of men of the 54th regiment who have suffered from the disease both here and in Egypt, that, in England, it has been more violent in its form, and more fatal to the organ, than was experienced in the country from whence it has been derived.

If I did not think the facts which have been stated of sufficient strength to be acted upon, I should not have undertaken to represent them. It is, therefore, no additional presumption in me to say, that something appears capable of being done by which the recovery of 400 men may be accelerated, and enable them to join their respective regiments, for which, by the care they have taken, and the disappointment they have felt from the tedious nature of the disease, they have at all times evinced an unfeigned and anxious desire; and it is an object worthy of the most deliberate consideration, to remove men affected with the ophthalmia from a situation where the most vigorous and decided treatment is unable to oppose the reiterated relapses of the disease, and where the practitioner has at last, when the same measures can no longer be repeated, the mortification of seeing the organ rendered more or less incapable of vision. Even here, the deleterious effects of the causes which have been spoken of throughout this report, is not at an end, for, in the most hopeless cases of blindness, they occasion a return of pain in a degree as violent as was experienced before the loss of the eye *.

Should

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* The pain here alluded to occurs in the eyes which have became staphylomatous, and is a very general affection in wet weather. In one morning I have had

Should the experiment be made of removing the ophthalmia patients to a situation of an opposite nature to the present, without producing the material alteration I am led to expect, I can only appeal to the facts for a justification of the opinion I have endeavoured to convey.

Jan. 4th 1808.

P. S.—I have the satisfaction of here adding, that since the foregoing report has been laid before the Inspector General of Army Hospitals, the ophthalmia cases have been removed from Riding Street to the barracks at Selsey, and that the measure has been attended with all the success my most sanguine hopes had led me to expect. In farther confirmation of the fact I have endeavoured to support, I beg leave to subjoin an extract from a letter which I have just received from my friend Mr Redmond, surgeon to the 54th regiment of foot, dated Stoney Hill Barracks, Jamaica, October 29th, 1807.

" You no doubt are already acquainted that the ophthalmia continues here; that wish to take convalescents on board, transported the disease to this country. On board the head-quarter ship two boys only had the disease, which, by care, was soon cured, and prevented from spreading through the ship; but the Willoughby was not so fortunate, the disease continued in her during the whole voyage, and, upon landing, the cases were sent to the same barracks with the other men, where it has continued ever since, though in a much less degree of violence, not requiring that antiphlogistic treatment which was adopted at Ospringe. We have had upwards of 200 cases. One man has lost the sight of his right eye, who had previously lost the left in Egypt; the vision of another man is impaired.

" It appears almost impossible to judge the length of time required to insure safety from a relapse. *Moisture* is the most powerful agent for diffusing its contagion. I have observed that the hottest weather, accompained with a dry atmosphere, had such a powerful effect in diminishing its violence, as to reduce our numbers, at one time, to 12 convalescents; but the rainy season setting in, the admissions became daily increased and more violent. We have now 46 cases, and do not expect less until the cessation of the rainy season. Our retired situation has prevented our communicating the disease."

IV.

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had to evacuate the aqueous humour in five cases, in order to relieve the pain, while, for a month or six weeks at a time, I have not been once called upon to repeat the operation.

IV.

Remarks on the Difference between the Infectious Ophthalmia, and that produced by the Artful Application of Irritating Substances to the Eyes. By JOHN VETCH, M. D. Assistant Surgeon with Ophthalmia Detachments at Riding Street Barracks.

THE discovery of a system, which has existed among the men of the 28th regiment of foot, of producing, by the application of irritating substances to their eyes, such a degree of ocular inflammation, as not only to exempt them from their duty, but even with the ultimate view of being discharged from the service, must naturally incline every person, more or less, to suspect that similar means have been employed in other instances where, from an affection of the eyes, the same objects have been accomplished, and even perhaps altogether to overlook, that it has been from the prevalence of a natural ophthalmia, that the minds of the men were in that instance led to perpetrate the deceit, and those of the medical attendants to receive the imposition.

To point out the difference between this factitious disease, and the infectious ophthalmia, which first appeared in the army during the Egyptian expedition, and in which it still prevails to a considerable extent, some leading facts are here briefly contrasted, in the hopes that they may be useful in assisting so necessary a discrimination, and to prevent, by a hasty belief that there exists no other than a factitious ophthalmia, the dereliction of those measures which, after the loss of much time, have been found sufficient to arrest the progress of the natural disease.

1. The affection of the eyes which prevailed in the 28th regiment of foot, and which has been proved in the greatest number of cases to have been caused by the wilful application of irritating substances to the eyes, was confined entirely to the privates and non-commissioned officers of the regiment.

Where the infectious opthalmia has prevailed, it has uniformly affected the women and children, in a proportion equal to that of the men: It has been frequently communicated to the officers, both military and medical *. It has appeared among the inhabitants of the neighbourhood of the disease; it has also made its appearance among the children of the Royal Military Asylum, where for some time it prevailed to a considerable extent.

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* I am acquainted with four cases of the former, and two of the latter.

2. The counterfeit ophthalmia continued to present itself after the adoption of the most vigorous measures against the action of contagion or infection.

The progress of the infectious ophthalmia has been, in those instances with which I have been connected, effectually arrested by the removal of the affected, on the first appearance of the disease; their complete separation from the healthy as long as the slightest symptom remains; and the vigorous enforcement of every measure against the operation of infection.

3. In the counterfeit ophthalmia the inflammation was, for the most part, confined to one eye, and that almost always the right.

In above 1000 cases of the infectious ophthalmia, I have met with but a very small number, not exceeding six, where both eyes have not been affected.

4. The counterfeit ophthalmia was sudden in its progress, having generally occurred and arrived at its acmé in the course of the night.

The infectious ophthalmia advances by a gradual and uniform progress after its first commencement.

5. In the counterfeit ophthalmia, the swelling was chiefly in the conjunctiva, and was not attended with much purulency.

The tumefaction of the palpebræ, and great purulent discharge, are particularly characteristic of the infectious ophthalmia.

6. The artificial ophthalmia generally ceased as soon as the vision of the eye was rendered imperfect.

The infectious ophthalmia continues to harass the patient for months after the destruction of the eye, and the purulency and tendency to relapse, often remains for years after the total loss of sight.

7. As the counterfeit ophthalmia was generally confined to one eye, so was the loss of sight, a very small number of the 28th having lost both eyes.

From the infectious ophthalmia, a greater number have lost both eyes than one.

8. The eyes which were rendered unserviceable from the artificial ophthalmia, had seldom suffered much organic alteration.

Among the eyes which have been lost from the natural ophthalmia, a few are merely in consequence of a cloudiness of the cornea, and which may yet recover; but in by far the greater number, the organ is completely deformed, either by the formation of staphyloma, the complete evacuation of the humours, and a consequent flattening of the eye, from obliteration of the pupil, and adhesion of the iris with the cornea, cataract, amaurosis, and pterygion.

The general facts which have been here selected, are sufficient to point out the existence of two separate affections, without rendering it necessary to enter into a description of the peculiarities, which, from its first commencement, characterize the infectious ophthalmia from every other inflammation of the eye. In all the occurrences of this disease, to which my observation has been directed, its appearances have been uniformly the same, in men, in women, and in children, and had even individual cases of a counterfeit nature presented themselves, although I might have remained ignorant of the imposture, their singularity must have excited my attention, more especially as, from the extensive experience I had, it has become very easy to distinguish a case of the prevalent ophthalmia from any other species of ocular inflammation ; the truth I believe is, that the terror of the natural disease, whereever it prevails in its violent form, will be sufficient to deter the most resolute from tampering with their eyes.

As the tediousness of the convalescence, and the frequency of relapse, may be considered as suspicious symptoms of the disease, I shall conclude these observations with stating that both, though in a great measure aggravated by particular situations, are the inseparable effects of an attack of the infectious ophthalmia, and that, in the cases of the men whose eyes are totally destroyed, and who wait with much impatience for the complete cessation of the disease, in order to receive their discharges, and return to their homes, the relapses are no less frequent, and the convalescence no less tedious, than with those who have escaped with their eyes uninjured.

V.

Remarks on Mr Ellis's Theory of Respiration.

By John Bostock, M. D. late President of the Edinburgh Medical Society, &c. &c.

Mr Ellis, in his late publication, on the changes produced in the atmosphere by respiration, objects to the hypotheses that have been formerly adopted on this subject, and substitutes in their place one which is, in several particulars, different from any that has hitherto been proposed. It appears to me, however, that he has not sufficiently established his point, either against the old hypothesis, or in favour of the new one; and I shall now beg leave, through the medium of the Edinburgh Journal, to state the reasons which induce me to retain my old opinion. The candid and liberal spirit which Mr Ellis has manifested in his work, will, I am confident, render it unnecessary for me to make any apology to him for my attempt to controvert his reasoning.

I shall begin, by briefly stating the theory of respiration which I regard as the most probable, and the one which I adopted in my "Essay." The blood arrives at the right side of the heart, in a venalized state, loaded with a quantity of the oxide of carbon; as it passes through the pulmonary vessels, it becomes subjected to the action of the air contained in the bronchial cells; a portion of the oxygen is removed from the air, part of which, forming an intimate union with the oxide of carbon, is expelled in the form of carbonic acid gas, while the remainder is dissolved in the blood. It is here necessary to remark, that it is not *oxygenous gas*, but *oxygene*, which is supposed to be mixed with the blood. The caloric thus set at liberty is employed, part of it in maintaining the temperature of the lungs, which would otherwise be cooled by the admission of the external air; part of it in carrying off the aqueous vapour, and another portion in converting the carbonic acid into carbonic acid gas; but the greatest part of it is united, in the form of specific heat, to the arterial blood, which, by becoming arterialized, has its capacity for heat increased. The arterial blood is poured into the left cavity of the heart, and propelled through the arteries, into the extreme parts of the body. The oxygene which was dissolved in the whole mass of blood, during the circulation, gradually unites itself more intimately to a portion of the carbon in it, which it converts into the oxide of carbon, and thus the blood acquires the venous state. By this change its capacity for caloric is diminished; the specific heat which it obtained in the lungs, is given out in the capillary vessels, to keep up the temperature of the body, and the blood returns to the right side of the heart completely venalized. This hypothesis is nearly similar to the one which was proposed by M. M. La Grange and Hassenfratz; it received some modifications from Mr Allen of Edinburgh, and was delivered by him nearly in the form which I have stated above, in his admirable course of physiological lectures. It was, I believe, first published in my Essay on Respiration*.

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* I must not omit to mention, that this theory was, in the year 1797, detailed in the valuable Thesis of Dr De la Rive of Geneva; but the circulation of medical theses is too limited to be considered as equivalent to publication.

I shall now consider the objections which Mr Ellis offers to this hypothesis: He observes, that the air and the blood, while they are in the lungs, are separated, both by the membrane which forms the air cells, and by that which forms the coats of the vessels, and that the air must pass through both these bodies before it can act upon the blood *. I may remark, in this place, that not only this argument of Mr Ellis's, but some other parts of his reasoning, are founded upon the mistaken opinion, that *air* is supposed to enter the blood, and to exist in the vessels. This, however, is not the case; the oxygen on the one hand, before it enters the arterial, and the carbonic acid on the other, after it quits the venous blood, mutually give out and receive a portion of caloric, which is necessary to reduce each of these bodies to the gaseous state. Oxygen, however, is supposed to enter the blood, according to the hypothesis which I have undertaken to defend; and improbable as it might *à priori* appear, that it should have the power of penetrating a compact membranous body, the fact has been so well illustrated by the experiments of Dr Priestley and others, that I cannot but consider it as one too well established to admit of any farther scepticism. He found that blood, when separated from the air by a bladder, was acted upon by it in the same manner as when no substance was interposed between, and that a thick stratum of serum also permitted the action of the air, although a thin layer of water, saliva, or oil, as effectually prevented it, as if they had been separated by a solid body. In what way the action takes place, whether it be in consequence of the mechanical structure of membranous matter, which permits the oxygen to pass through its pores, or whether it be owing to its affinity for oxygen, which causes it, as it were, to become saturated with this substance, before it transmits it, it is not our business at present to inquire; it is sufficient to state, that oxygen and blood can act upon each other, through a membrane, which is very much thicker, and probably much denser, than that which separates the blood in the rete mirabile of the lungs from the air in the bronchial cells.

With respect to the actual change which takes place in air that has been exposed to the action of the blood, there can be no room for any difference of opinion; it is admitted on all hands, that it is diminished in bulk, that a part of its oxygen has disappeared, and that it has received the addition of a quantity of carbonic acid gas. The point in discussion is, to ascertain in what manner the carbonic acid gas is formed; and Mr Ellis endeavours

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* Inquiry, p. 117.

vours to disprove the former hypothesis, by showing that it cannot be derived from the venous blood, because there is no gas of any kind, and, of course, no carbonic acid gas existing in this fluid *. But this objection, it is obvious, does not apply to my hypothesis. Mr Ellis farther attempts to support his opinion, by showing that the carbonic acid produced in respiration is never formed, unless the blood has access to oxygenous gas, or to some gas containing oxygen. The proofs which he brings of the fact are satisfactory, but they are as applicable to the hypothesis which he opposes, as to that which he supports. He has indeed omitted what may be considered as a more decisive argument against the existence of carbonic acid in the blood than any which he has adduced; viz. that the soda which is found in the serum, is in the pure or caustic state. I therefore agree with him in his conclusion, that the carbonic acid gas which is exhaled from the lungs, is formed in consequence of the decomposition of the atmospheric air that is received into them †.

A new point here comes to be considered: Mr Ellis observes, that " supposing the air to be thus decomposed by the blood, it still remains a question, whether it has been first attracted by that fluid, then decomposed, and afterwards in part expelled; or, whether the decomposition has been effected without such previous attraction and intermixture of air‡." Now, the statement of the first part of this dilemma is not perfectly correct. It is not supposed that the air is absorbed by the blood, and afterwards in part expelled, but that a portion of its oxygen is attracted, which, after entering into a variety of new combinations, is only discharged as a constituent of some of these new compounds. This appears to be a sufficient reply to the only, or at least the principal objection which Mr Ellis offers to my hypothesis, that " granting to the blood this power of attracting air, or its oxygenous portion, it is not easy to conceive why it should so readily lose it, and again give out this air in the form of carbonic acid ‡." The only part of the oxygen that can be supposed to undergo this rapid succession of changes, is the quantity which is necessary to convert the oxide of carbon into carbonic acid; and it is not at all essential to the hypothesis, that this portion of oxygen should enter into the blood. Mr Ellis's observation, that the only argument in favour of the entrance of oxygen into the blood, is derived from the diminution in bulk which the air undergoes by the process of respiration, will, I think, be best answered when I come to state the positive arguments in favour of my hypothesis. Mr

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* Inquiry, p. 122.

† Ib. p. 123.

‡ Ib. *ubi supra.*

Mr Ellis again recurs to the objection that was noticed above, that the air and the blood are not in contact in the lungs, but that contact is necessary to the action of chemical affinity *. Without entering into the general question, I think it sufficient once more to refer to Dr Priestley's experiments, in order to prove that this action really does take place, under apparently less favourable circumstances. I am therefore obliged to dissent absolutely from the assertion of Mr Ellis, that this supposition "is wholly gratuitous, and in opposition to the results of direct experiments." His remark, that if air can penetrate the bronchial cells, it would, still more readily, pass into the cellullar substance that connects these together, is incorrect, in the first place, in as much as it is not *air*, but *oxygen* which is supposed to pass into the blood-vessels; and secondly, the passage of the oxygen only takes place because it is attracted by the blood. I may be permitted to pass over the arguments that are again adduced to prove that air does not enter the blood, or that it is not taken up by the absorbents †, because neither of these suppositions enters into my hypothesis, nor do I think myself called upon to follow the author through his examination of Mr Davy's arguments in favour of the absorption of air by the blood, because, however highly I may estimate the talents of this distinguished chemist, I have ventured to differ completely from him on the subject under discussion. It will also be at once obvious, that the next of Mr Ellis's objections does not attach to my hypothesis. He conceives that the air cannot be absorbed by the blood, and undergo the decomposition and subsequent alteration that has been described, because the change which it experiences is so considerable, and the period of one act of respiration so short, that there would not be sufficient time to bring about all these supposed changes ‡. The fact indeed is, that Mr Ellis's hypothesis supposes all the changes to be effected in the lungs, whereas, according to my idea, the greatest part of them are produced in the course of the circulation.

The observation that Mr Ellis afterwards makes, in support of his hypothesis, that the formation of carbonic acid, and the abstraction of oxygen are always exactly proportional, is obviously as favourable to my hypothesis as to his own; and the same remark may also be made respecting the fact which is brought forwards, that there is no production of carbonic acid when hydrogen is respired. What Mr Ellis says respecting the dark colour of venous blood, is worthy of consideration; and it must be admitted,

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* Inquiry, p. 125. † Ib p. 127. ‡ Ib. p. 137.

mitted, that we have no direct proof of its depending upon a superabundance of carbon in it. But it is, I apprehend, obvious, that as far as our opinions throw any light upon the subject, my hypothesis has the advantage. The change which the venous blood undergoes, according to Mr Ellis, is simply the abstraction of carbon; whereas the other hypothesis supposes, that while carbon is removed, oxygen is received, so that the change of colour may be attributed to either or both of these circumstances.

I have now considered all the objections that Mr Ellis offers to the old hypothesis, and although I have endeavoured to state them fairly, without detracting from their just value, I conceive that I have succeeded in answering them. I shall, in the next place, offer some remarks on the hypothesis which he attempts to substitute in the place of the former. According to Mr Ellis, the venous blood differs from the arterial, in containing a quantity of carbon, which, during the passage of the blood through the lungs, is carried off by the exhalents of the pulmonary arteries, and discharged into the bronchial cells, dissolved or suspended in water. The carbon thus excreted is united to a part of the oxygen contained in the inspired air, and is expelled in the form of carbonic acid gas. No part of the air is received into the blood, but this fluid becomes arterialized merely by the loss of a part of its carbon *. To this hypothesis there appear to be some important objections. The blood leaves the lungs in the arterial state, in consequence of part of its carbon having been carried off by the pulmonary exhalents, and the only change which respiration has effected in it is of an indirect kind, and consists in successive portions of fresh air being admitted into the bronchial cells, which removes the carbon in proportion as it is excreted. The blood, in the course of its circulation, passes from the arterial trunks into the capillary vessels, where it is found to acquire new properties, and becomes reduced to the venous state. But how has this change been effected! Not by its parting with oxygen, because none of this substance is supposed by Mr Ellis to exist in it; nor by the addition of carbon, because it acquires this substance from the thoracic duct, which opens into the venous system near its termination in the heart. The change cannot be occasioned by a new arrangement of the constituents of the blood, preparatory to the removal of the carbon from it, when it next arrives at the lungs, for this could only consist in the partial oxidation of the carbon, a supposition which is inconsistent with Mr Ellis's hypothesis. That the blood is not venalized by any thing which it either

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* Inquiry, p. 123, 125, 198, 200, 235, *et alibi.*

either acquires or loses during its passage through the capillaries, is proved from the fact, that the same change may, under particular circumstances, be brought about in the arterial trunks, a situation where nothing can be either received or emitted by it, and where any change that ensues must depend upon the reciprocal action of its constituents upon each other. It appears, therefore, that in Mr Ellis's hypothesis there is no provision made for the venalization of the blood, a circumstance which, if not a direct proof of its insufficiency, is at least a powerful argument against it.

A second objection to Mr Ellis's hypothesis is, that venous blood may be arterialized under circumstances where the excretion of carbon cannot take place. When a piece of venous crassamentum is exposed to the action of oxygenous gas, it immediately becomes arterialized. But how is the change effected ? It must necessarily be by the operation of chemical affinity ; whether the oxygen, without entering into the blood, attracts the carbon from it, or whether it unites with the blood and oxidates it, it is still the operation of chemical affinity, and depends upon the direct action of the oxygen upon the blood ; an action which is essentially different from the one supposed by Mr Ellis to take place, where the air produces no immediate effect upon the blood, but only unites with a portion of carbon that was previously separated from it by a different kind of operation. It may perhaps be here objected, that the venous crassamentum, where out of the vsssels, is in a situation so different from that which is natural to it, that we cannot fairly draw any conclusion from the one to the other. But we have an experiment that is precisely in point; for it has been found, that a portion of one of the venous trunks, when its integuments have been removed from it, has had the blood which it contains arterialized, by directing a stream of oxygenous gas upon it *. It is, however, impossible that any excretion of carbon could take place in this instance from the exhalents, and I think I am not going too far when I say, that this may be considered as an experimentum crucis. It is likewise a striking illustration of the power which oxygen possesses of acting upon blood, notwithstanding the interposition of the coat of a vein.

A third objection to Mr Ellis's hypothesis is, that it does not explain how the regular supply of carbon is, at each successive circulation, brought to the lungs in a state proper to be discharged. He admits that the supply of carbon is derived from the digestive

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* Goodwyn on the Connexion of Life with Respiration.

digestive organs, so that it must, of course, be poured into the blood by the thoracic duct. The carbon is therefore conveyed to the lungs almost immediately after it is received into the sanguiferous system, before the processes of sanguification and assimilation can be supposed to be, in any degree, completed. On this subject, I acknowledge, that we must be guided more by analogies and probabilities than by direct proofs; but I think it will be admitted, that it is not antecedently probable, that the carbon should no sooner be received into the blood than excreted, or that the first operation which takes place in the sanguiferous system, after it has received the substance which is to afford nutriment to the body, is to discharge the greatest part of it. The other hypothesis supposes, that the chyle, when received into the blood, remains mixed with it, and gradually becomes incorporated into its substance. After the different secretions have been effected, the blood is brought back to the lungs, carrying that part of the chyle which has not been employed in repairing the wastes of the system; and this being already in an oxidated state, is adapted to the purpose of being discharged from the blood, by its union with an additional quantity of oxygen.

A fourth objection against Mr Ellis's hypothesis is, that it does not explain in what way the oxygen is employed which is consumed in respiration. I think I may remark, without being uncandid, that what he says upon this point, particularly respecting the correspondence between the bulk of oxygen destroyed, and of carbonic acid produced *, shows that he is perplexed, and at a loss to make out his position. In order to estimate these quantities with accuracy, we must employ weight and not measure; and the fact is, that upon the authority of those experiments on which we can rely with the most confidence, the surplus of oxygen, after the formation of the carbonic acid, is very considerable; it amounts to more than 1-8th of the quantity of oxygen which disappears. These objections, though not all which I think may be urged against Mr Ellis's hypothesis, appear sufficient to demonstrate its improbability, its repugnance to acknowledged facts, and its want of correspondence with the laws of the animal economy.

It now only remains to point out the arguments in favour of my own hypothessis. This I shall do very concisely, because, in controverting the reasoning of Mr Ellis, I have necessarily anticipated a considerable part of what would otherwise have fallen under this head. The hypothesis which I have undertaken to defend, explains the manner in which the blood becomes arterialized

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* P. 153, *et alibi.*

lized in the lungs, and venalized in the course of the circulation. It also shows how, under particular circumstances, the arterial blood may be venalized without leaving the arteries, and the venous blood arterialized without leaving the veins. It accounts for the gradual evolution of caloric in the capillary vessels, during the course of the circulation, by the union which takes place between the oxygen and the carbon, whereas in the other hypothesis, this union is entirely completed in the lungs. It allows a considerable space of time in which this union may be accomplished, and likewise supposes the constituents to remain in perfect contact for an indefinite period. My hypothesis also explains, how the oxygen is disposed of, which is not consumed in the formation of carbonic acid, and likewise possesses the advantage of supposing the existence of a surplus quantity of this agent, which, being carried along the circulation, may be expended on a variety of useful purposes, in the different parts of the animal economy. It shows how the supply of matter, which is poured into the blood by the absorbents, is gradually incorporated with the mass; and after the separation of that portion, which is necessary for repairing the waste of the different organs, the remainder is united to oxygen, and keeps up the temperature of the body, and, having afterwards no farther useful purpose to serve, it is discharged by the lungs. This hypothesis may be said to point out the appropriate use of the pulmonary system, and to show why the blood is dispersed through such a number of small channels, and so intimately intermixed with the air. Had there been nothing more to accomplish except the mere excretion of carbon, this might have been done with a less complicated apparatus of blood-vessels; nor would it have been necessary to employ so much contrivance to bring the air and the blood into contiguity.

All the arguments which I have here adduced in favour of my hypothesis[*] of repsiration, are such as apply to it exclusively, as I have purposely avoided bringing forwards any which are equally favourable to both opinions. If I mistake not, they afford a mass of evidence, which is rarely to be found on subjects so intricate as the internal operations of the animal economy.

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[*] It may be necessary for me to observe, that the term, "my hypothesis," is used merely to avoid a long periphrasis. I claim neither invention nor originality; the only alteration which I make in Mr Allen's modification of the hypothesis of Messrs Lassange and Hassenfratz, is that I suppose the matter discharged to be carbon; Mr Allen, a mixture of carbon and hydrogen.

VI.

The following History of a Case of Hysteralgia was read at a Meeting of the Medical Society of Liverpool, By JOHN RUTTER, M. D. Physician at Liverpool.

J. S. the subject of this history, enjoyed good health in the early part of her life, although her habits were rather of a sedentary kind. Her constitution occasionally exhibited a disposition to hysterical affections; but they did not proceed to any great degree, nor did they continue long. In January 1758, in the 27th year of her age, she married. In her pregnancy, which took place in the following year, nothing unusual occurred. She went to the full period; but her parturition, which happened in her 29th year, in the month of January 1760, was extremely difficult, lingering, and laborious, although natural. She was young, and well formed; and there was no apparent impediment to her speedy and safe delivery, but what arose from excessive terror, to which, in the opinion of the gentleman who attended her, the late Mr Antrobus of this place, her protracted labour was to be ascribed. At length, after much severe suffering, she was delivered in convulsions of a dead child. A short time after her delivery, she was attacked by miliary fever, which greatly reduced her strength, and retarded her recovery. About a year after her delivery, that is, in the year 1761, she felt a hard lump, seated deep in the pelvis, and in the left side of it, and complained of pain in that part on leaning forwards or stooping. The lump increased very gradually in size, and, in the sequel, rendered exercise very painful to her. Some time elapsed before the lump could be felt through the integuments, but when it was perceivable by the touch, it was hard, firm, and circumscribed. The swelling continued to increase for several years, until at last it rose out of the pelvis, and pushed outwards the integuments of the left side of the abdomen; and, when it had acquired its largest bulk, appeared to the touch to be about the size of a child's head. In the beginning of March 1770, in the 39th year of her age, and after a period of nine years had elapsed from the time when she first perceived the hardness, the swelling burst internally, and discharged its contents by the rectum. This event was preceded by a smart attack of fever. The fluid discharged daily during the first few weeks was thin, fœtid, of the colour of coffee grounds, and in large quantity. It then assumed a purulent appearance, and the fœtor of it was intolerable. As the discharge proceeded, the external swelling subsided, and at last disappeared altogether. The discharge continued to flow in undiminished quantity for many months, and then began to abate. It occasioned an extraordinary degree of emaciation, and such debility that, for some time, she was attacked daily with syncope, from which it was often difficult to recover her. The medical gentlemen who attended her, the late Dr Robinson of this town, and Mr Antrobus before mentioned, finding their long continued efforts to restore her by medicine altogether fruitless, resigned her to the care of her connections, by whose incessant and persevering attention for several months, she very slowly regained a considerable share of strength. The discharge, however, returned at different periods for several years afterwards, and was in every instance of such return, preceded by an attack of fever. She suffered also, during this period, from repeated attacks of colic.

So far my information, with respect to the progress of her complaints, has been received from her sister, who attended to her very closely, particularly during her dangerous and alarming situation, after the abscess had burst; and upon whose mind the circumstances have made such an impression, that little doubt can be entertained of the correctness of the statement which I have here given. The dates have been ascertained by reference to different documents.

Amongst her papers, which it was my lot, as her executor, to examine after her decease, I found a great number of letters written to her by the late Dr Hillary, (then a resident in London) from the year 1758 to 1763, and one from the late Dr Fothergill in the year 1765, entirely on the subject of her complaints. From these letters it appears, that during the whole of 1758 and 1759, that is, two years before her delivery, as well as during several years after it, she had been affected with leucorrhœa to an uncommon degree. The effects of this disease on her general health, are thus described in a letter of Dr Hillary's, dated July 4th 1761: "The continual drain and discharge is the cause of all the other complaints: the pain in the breast, shortness of breath, fluttering and surprise from little things, pain in the side, great sweatings, hectic heats, great weakness, faintness, sickneſs, pain in the back, beating and trembling at the heart, and noise in the ears, and all the other symptoms, are caused by, and are the produce of that disorder," viz. the leucorrhœa. The whole of this correspondence is confined to the consideration and relief of that disease alone; and, although many of the letters were written two years after the hardness and pain had been first felt in the pelvis, there is not the slightest allusion to this complaint in any of them; for she had concealed the knowledge of it not only from these gentlemen, but also from her medical friends in Liverpool, for some time after this correspondence had ended.

On the cessation of the catamenia, in her 50th year, a new symptom was superadded. She was seized with a very acute pain, which she always referred to the region of the uterus, and which she carefully distinguished, from a sense of internal heat and soreness, under the integuments of the abdomen, in the former seat of the abscess; both of which symptoms continued during the remainder of her life. That sensation of heat and soreness was always increased on motion, particularly on walking or riding in a carriage: it was increased on any, even the slightest, exertion of her arms. The pain in the uterus, on the contrary, was relieved by motion in a carriage. The pain in the uterus was her daily companion for not less than twenty-six years. It began early in the morning, and frequently waked her out of her sleep, and continued to increase until noon, when it appeared to have acquired its utmost violence, and, towards evening, gradually abated; but I never heard her say that, when awake, she was altogether free from it. Its exacerbations were generally preceded by extraordinary agitation of the heart and arteries; the heart throbbed, and the pulse beat with great rapidity; as the pain increased, the countenance became flushed, and was expressive of great anxiety; her spirits were depressed, with a sense of great faintness; her whole frame was agitated and restless, and she was often harassed with loud and violent eructations. When the pain abated, these symptoms subsided. The pain was also greatly increased at the periods of new and full moon. She first directed my attention to this circumstance, and I observed it, for many years afterwards, to recur with a degree of regularity which leaves no room to doubt the fact, to whatever cause it is to be ascribed. In her 52d year she was seized with spontaneous ptyalism, which continued two years; during which time she discharged daily from one to two pints of saliva; but the ptyalism at last suddenly ceased on swallowing her saliva, by the advice of a gentleman who then occasionally attended her. Of late years she frequently complained of severe palpitation of the heart, which was accompanied with irregularity and intermission of the pulse. In her 72d year, she was attacked with hemiphlegia, which distorted her features, affected her speech and respiration, and deprived her totally of the power of motion of the whole of her left side By the remedies which were employed, she recovered her speech and the power of motion in about three months; but her respiration was ever afterwards occasionally more or less difficult. It is however remarkable that, during the continuance of the paralytic affection, the pain in the uterus was considerably diminshed, as well as the other symptoms which usually accompanied it; but, after the powers of speech and motion were restored, the pain returned again with its accustomed, or rather with increased violence, and continued so till her death. It was the last symptom of which she complained, whilst she was capable of utterance. In May 1806 she was affected, without any apparent cause, with an uncommon degree of restlessness, agitation, and depression of spirits. These symptoms continued four or five months, and were relieved by nothing but the occasional use of opium. During the last 12 months of her life, she was confined to her bed. In this confinement she complained frequently of great pain at the extremity of the rectum; and, a few weeks before her decease, a purulent discharge took place from that part. Whilst she was thus confined, the kidneys were affected with great torpor. The urinary secretion was not supported without the frequent use of diuretics. It was discharged at long intervals, and in small quantity; a state very different from that to which, during all the preceding part of her life, she had been accustomed, for, before that time, the discharge of urine had been very frequent and copious, and the colour pale.

Death put a period to her sufferings on the 23d of August 1807, in the 77th year of her age.

I am aware that the preceding narrative contains but a very imperfect history of morbid affections, which, from their commencement to their termination, occupied nearly half a century. It is however, I believe, correct with regard to all the material circumstances of the case. Of the views which were first formed of her complaints, and of the means which were employed to relieve her, I can obtain no satisfactory information; for the gentlemen who attended her in the commencement of her illness have been long since removed from the scene. I can only learn, that the tumour, when it was first made known to them, was supposed to be of a scirrhous nature, and that cicuta was prescribed freely; but, as might be expected, with no advantage. Before I had an opportunity to make any observations on her state, she had almost entirely abandoned the aid of medicine. She had recourse to opium occasionally for the relief of pain; but as its effects were merely temporary, and as it disordered her stomach, lessened her appetite, and increased the depression of spirits, she did not continue the use of it for any long time together. The bark always disordered her bowels, and medicines of a cordial nature, and a diet in any degree stimulant and heating, never failed to increase the heat and soreness in the side already mentioned.

It had long been her wish that, after her decease, her remains might be carefully examined; as she was convinced that the nature and cause of her severe and uncommon sufferings would then, and then only, be fully developed and explained. In compliance with this wish, therefore, I requested my friends Mr Christian and Mr Hay, surgeons of this town, to undertake the investigation; and particularly directed their attention to the contents of the pelvis; and they were so kind as to favour me with the following report of the appearances, observed on examining the body eight hours after death. As the patient was nearly related to me, I declined being present at the examination for obvious reasons.

" *Examination of the late Mrs S. Aug. 23d,* 1807.

" The external parts of the body presented nothing very remarkable, except a tumour in the right hypogastrium, about the size of an egg, and situated under the integuments, or rather the abdominal parietes. The labia externa, and also the skin about the anus were in a state of incipient gangrene.

" Upon opening the abdomen, the parts in general appeared healthy, and in their natural situations. The colon, however, contained large proportions of scybala, more especially that part of it called the cœcum, which was completely distended with those substances, and, by its weight, or from other causes, had descended into the pelvis. The tumour above noticed, as appearing through the integuments, was also a portion of the same substance.

" The other viscera contained in the pelvis were not in a natural state. The uterus, and that part of the colon which terminates in the rectum, were firmly attached even to the very fundus, immediately above which, and situated upon the anterior part of the gut, was a tubercle of a glandular-like structure, and resembling a small raspberry, but which was hard in its texture, approaching to a state of scirrhosity; yet its connection with the intestine was neither very intimate nor firm. Upon separating the uterus from its connection with the intestine, which required a considerable degree of force, a cyst was opened, which was found to contain a blackish bituminous-like substance, of the consistence of a thin extract, and about two drachms in quantity. Upon tracing the cyst, it was found to extend downwards about two inches, independently of a sinus at its inferior extremity about two inches more, running towards the left side of the rectum, and piercing its peritoneal and muscular coats; but no opening could be discovered into the rectum, either at this or any other part. The upper part of this cyst was firmly attached to the tubercle above described; but it appeared to have no particular connection with the uterus, which was extremely small, and perfectly soft in its substance, presenting no marks whatever of disease, except a slight vesicular appearance on its internal surface, but which did not extend to the vagina.

" The bladder was but slightly distended, and felt somewhat firmer than usual, being somewhat thickened in its substance; and the internal membrane exhibiting a rough surface, as if corrugated by the application of an astringent substance; but no appearance of inflammation existed in this part, nor even at the neck of this viscus, although a slight degree of it was observed in the urethra, about half an inch from its extremity.

" The rectum, throughout its whole extent, was considerably distended with fæces; the circumference in general being about six inches, except at the upper part of the pelvis, where it would only receive the end of the finger.

" The ureters and kidneys were free from disease, and the rest of the viscera appeared healthy. The spleen was unusually small, and the gall-bladder was filled with a biliary concretion, except at that end which terminates in the ductus cysticus, where about two or three drachms of thick bile were collected.

" The aorta was completely ossified above its division into the iliacs; and the same state of the coats of the vessel extended upwards of two inches, and existed also in some of the vessels within the pelvis."

To this report it may be added, that the ovaria and fallopian tubes were perfectly free from disease; and that no appearances were found, which could in the least account for the continual sense of heat and soreness, immediately under the abdominal parietes, in that part where the abscess had protruded.

Upon comparing the symptoms with the appearances just related, it will at once be perceived, that the examination has thrown scarcely any light on the nature and cause of the pain always referred to, and always supposed to have had its seat in the uterus. It is not easy to believe that the vesicular appearance described on the internal surface of the uterus, could have occasioned such severe and long continued torment. And no other change was observed in the structure of the uterus, no thickening, no hardness, no scirrhosity, no ulceration, nothing which affords any explanation of this distressing symptom. I think there could be no deception in the feelings of the patient for so long a period. The pain was constantly fixed in one place, and that place was always believed by herself to be the uterus. There does not seem to be any thing in the other appearances observed, which would lead to a suspicion that she was mistaken in this belief. For it is not probable, that the coats of the cyst were endued with degree of sensibility sufficient to have given occasion to such suffering. And it does not appear that the bituminous-like substance found in it had, by any of its properties, chemical or mechanical, produced any effect whatever on the coats of the cyst. That substance seems to have been altogether inert; for if either inflammation, erosion, or ulceration had been occasioned by it, they would not have escaped the observation of the gentlemen before mentioned, who examined the parts with great care. But even if such effects had been detected, still it is highly probable, that the pain excited by them should have been as severe as that which I have described, or continued as long.

It may however be supposed, that the pain may have been occasioned by the tubercle. Such a supposition must be founded upon an opinion that the tubercle was of a scirrhous nature, Now, scirrhous tumours are characterised by their hardness, their indolence, the slowness of their growth, and by their not changing the natural colour of the part. When a scirrhous tumour is approaching to the state of carcinoma, it becomes painful, but the pain is always more or less lancinating. At the same time, the scirrhus enlarges more rapidly than before, and changes its form, and becomes unequal, pointed, and angular. But the tubercle above mentioned had not undergone this change. It was small, round, and circumscribed; hard, firm, and of the natural colour; and therefore, a strong presumption arises, not only that it was not the cause of the pain before described, but that it was not painful at all. It does not appear to be consistent with the observations which have hitherto been made of the progressive changes of scirrhus into cancer, to suppose that a scirrhous tumour could have excited, for such a length of time, such " horrid pain ;" for such was the epithet by which this patient described the pain, without undergoing great changes, and producing very extensive destruction in all the neighbouring parts.

There seems, then, to be little or no reason to conclude, that she was mistaken in her belief with respect to the seat of the pain; and if so, it is an extraordinary circumstance that the pain should have continued in the uterus, without one day's cessation, for 26 years, and that no derangement in the structure of that organ should be discovered after death, sufficient to account for it.

If this pain was not occasioned by an organic affection of the uterus, to what cause is it to be ascribed? On this point, perhaps, different opinions may be entertained. It appears most probable to me, that this symptom was hysterical. The constitution of this patient was disposed to hysterical affections. Many of her symptoms were entirely of that description. The violent eructations, the depression of spirits, the faintness, the frequent discharge of pale-coloured urine, the palpitation of the heart, the flutter and agitation which accompanied the pain, and her constant proneness to forebode the worst termination of her complaints, were all hysterical. All these symptoms increased with the increase of the pain, and declined as it declined. As they were constantly associated together, it is probable that they were respectively symptoms of one general affection, and that affection was hysteria. This opinion is supported by other considerations. There was originally in her constitution that degree of sensibility which is favourable to the production of such a disease, and which had no doubt been greatly increased by the sedentary habits which she had been constrained to adopt during the greatest part of her life. And the dependence of the pain upon this constitutional sensibility, appears to me to be evinced by the circumstances already mentioned, of the pain having been greatly mitigated, and the other hysterical symptoms having been greatly lessened, whilst the paralytic affection remained, and of their return with their former violence, when the sensibility of the system was restored to its former state.

There is something singular in the regular exacerbations of the pain every day, as well as in those which were observed at the lunar periods. I know no explanation which can be given of this. Dr Whytt, in one case for which he was consulted, inferred from periodic pains in the hypogastric region, the existence of scirrhus in the uterus beginning to turn cancerous. The case in a few circumstances bears a distant resemblance to the case before related. The following are his words: "As I was only consulted for this person at a distance, I never learned whether her body was opened or not, but I think there can be little doubt, that almost all her complaints, and particularly the sharp periodic pains in the hypogastric region, were owing to a scirrhus in the uterus beginning to turn cancerous*." The present case, however, shews, incontestibly, but periodic pains in the hypogastric region cannot be relied upon as proofs of the existence of scirrhus in the uterus about to degenerate into cancer.

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* Whytt on Nervous Disorders, edition 3d. p. 206.

With respect to the reason of the other morbid appearances observed in the contents of the pelvis, a few words may suffice. It seems in the highest degree probable, that the cyst found between the uterus and rectum was the remains of the abscess, and that its firm adhesion to these viscera had been occasioned by the inflammation which must have attended it in its progress. It is equally probable, that the sinus at the bottom of the cyst, and which was found to penetrate the peritoneal and muscular coats of the rectum, was the channel by which the contents of the abscess were discharged into that bowel, although the opening into it appears to have been obliterated. So far these phenomena seem to be easily explained. But there is considerable difficulty in determining the nature and origin of the dark-coloured substance found in the cyst. It seems, *prima facie*, to have been the remains of blood poured into the cyst, of which the thinner parts had been absorbed. I mention this rather as a conjecture, than as an opinion*.

After

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* Since I wrote the above, my friend Dr Bostock has subjected the dark-coloured substance above mentioned, to chemical analysis; and has obligingly permitted me to insert the result of that analysis here. It proves that my conjecture was erroneous. It should be observed, that when Dr Bostock began his experiments on this substance. it was in a dried state; when taken out of the cyst, it was, as has been already stated, of the consistence of an extract. I give the result of his analysis in his own words:

Examination of the substance obtained from Dr Rutter's Patient.

" The substance was of a dark brown colour, and of such a consistence as to break with a smooth fracture; in its visible and tangible qualities, it bore a strong resemblance to the inspissated juice of the aloe. A small portion of it was kept for 48 hours in water, at the temperature of the atmosphere; the fluid was slightly tinged, and the substance was softened, so that, by gentle pressure, it could be entirely broken down, and diffused through the water. By remaining some time at rest, it slowly subsided, and the water did not appear to have retained any part of it in solution, as it was not affected either by the nitrate of silver, the acetate of lead, the oxy-muriate of mercury, the oxalate of ammoniac, or the infusion of galls. Boiling water produced the same effect upon the substance with cold water, except that its texture was more rapidly broken down; in a short time it became perfectly soft and pulpy, and was diffused through the water, but by rest, it entirely subsided; and the fluid, after passing through the filter, indicated no effect from any of the above reagents. Hence it appears that the substance contains neither albumen, jelly, mucus, common salt, nor any soluble salt of lime; and we may therefore conclude, that it consists neither of blood, nor of any of its constituents, and that it is not the immediate product of blood.

" The substance did not appear to be at all affected by alcohol at the temperature of the atmosphere, nor was the boiling of it productive of any sensible effect, except that it was slightly softened; but by evaporating the alcohol, a

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After all that has been said, it must be admitted, that some of the circumstances of this case are uncommonly obscure; and if the explanation which I have attempted to give of the leading symptom be not the most probable and rational, I know no other which can be given of it.

Liverpool, Jan. 12. 1808. JOHN RUTTER.

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very minute film of a whitish substance was left behind. The portion dissolved was, however, so small, that a quantity which had been boiled for some time in alcohol, was found not to have lost more than 1-60th of its weight.

" Sulphuric æther, at the temperature of the atmosphere, did not produce any sensible effect upon the substance; it was not even softened by it; but as it evaporated, a small white film was left behind. When the æther was heated to its boiling point, a very considerable effect took place; and as it cooled, the whole became completely opake, in consequence of the presence of a large quantity of white flakes. It was found, that about 1-4th of the substance was dissolved by boiling æther; what remained was no longer acted upon by it, and yet its sensible properties were very similar to what they were before the action of the æther. By the evaporation of the fluid, a brownish oily matter was left, which did not shew any tendency to become concrete, or to crystallize. This oily substance was readily dissolved by heated alcohol, and was precipitated from it as it cooled, and also by the addition of water.

" Caustic potash readily acted upon the substance, at the temperature of the atmosphere, and still more so, at the heat of boiling water; it was quickly broken down, and formed a reddish brown solution, which was slightly opake. Each of the three mineral acids precipitated it from the alkali, in the form of minute particles. The substance was speedily dissolved by nitric acid, especially when heated, and a bright yellow solution was formed; it was precipitated from the solution by potash, but not by ammoniac. As far as could be judged by the eye, the substance, after it had been acted upon by æther, was affected in the same manner by potash and nitric acid, as in its entire state.

" The substance, when exposed to a strong heat, exhibited a kind of ebullition, and at length inflamed, and burned with a bright light, at the same time emitting the smell of burned membrane; the residue, after combustion was one-fifth of the original weight, and was of a black colour. The residue, when added to nitric acid, was in part dissolved, exciting an effervescence, and tinging the fluid of a reddish brown colour; what was left seemed to be a perfect charcoal.

" On account of the small quantity of the substance upon which I had to operate, the weight of the whole not being more than 18 grains, I was not able to proceed any farther in my examination of it. From the above experiments, it would seem to be of a very peculiar nature, different from any substance which has hitherto been made the subject of analysis. It appears to be composed of two distinct kinds of matter, one composing about 3-4ths of the whole, and giving it its figure and consistence; the other, a substance diffused amongst the particles of the former. The first of these bodies, although totally different in its physical properties, appears, from its effects on the different re-agents, to be almost precisely similar to membranous matter in its chemical properties. The other substance is of an oleaginous nature, and bears a considerable resemblance to the adipocire, obtained by digesting the muscular fibre in nitric acid."

Clayton Square, Jan. 4. 1808.

VII.

VII.

Case in which the Cæsarian Operation was successfully performed twice on the same Woman, communicated by Dr CHISHOLM.

In October 1805, Monsieur D'Ariste, an eminent surgeon accoucheur in the island of Martinique, was employed to attend a first labour, of which the following particulars are the most interesting: The lady was 25 years of age, three feet ten inches high, of a very ricketty constitution, and much deformed. During her pregnancy nothing remarkable occurred; but to the period of delivery, her friends looked forward with a degree of anxiety for which they had but too much cause. The surgeon, sensible of the disadvantages opposed to him, proceeded with much caution. The touch increased his apprehensions, as it convinced him that a living child could not pass through the natural passages, the diameter from the pubes to the sacrum being under two inches. The patient was sensible of her danger, but she had good spirits and much fortitude; the child also was lively. So circumstanced, and it being late in the evening, Mr D'Ariste thought it prudent not to proceed to extremities till next morning, when he could have the assistance of his professional friends. At that time, accordingly, being joined by his brother and others, and the case being maturely considered, their united opinions were in favour of the Cæsarean operation, in preference to the certain destruction of the child, by the scissars and crochet. The patient consented readily; and being properly placed on a matrass, raised on a table, her legs were secured by assistants, and an attempt was made to empty the bladder, but from the pressure of the uterus, the catheter could not be introduced. A straight incision was now made along the *linea alba*, beginning an inch below the umbilicus, and extending to nearly the same distance from the pubis; several arteries were divided, and immediately secured by ligatures; a portion of the intestines were protruded at the wound but easily reduced; an incision was now made through the anterior part of the uterus, of the same extent as the external one; the placenta immediately presented itself, and was separated. The surgeon then introduced his hand in search of the child's feet, and having laid hold of them, had little difficulty in completing the delivery. As soon as the secundines were brought away, the natural contraction of the uterus restrained the hemorrhage, which was at first considerable. The edges of the external wound were brought together by sutures, and simple dressings were applied, and retained by a proper bandage round the body. The wound was dressed daily, and in three or four weeks the patient was able to sit up in a chair, only prevented from stirring about by the debility consequent to so formidable an operation. Some untoward circumstances attended the progress of the cure; a diarrhœa was at times troublesome, and she had some accessions of fever, all of which, however, yielded to common remedies. The child was weak and faint for a few minutes after it was brought to light, but restored by the common cordials; nothing particular was noticed with respect to it afterwards.

The case appeared of such consequence to the Captain-General, Villaret Joyeuse, that he ordered an account of it to be published at the government press, which was accordingly done.

In June 1807, a gentleman of veracity, from Martinique, informed me, that the same woman had again been pregnant, and again Monsieur D'Ariste had performed the Cæsarean operation on her with the same success. I do not vouch for the truth of the second statement, but I believe it myself, from the character of my informant.

VIII.

Case of Chronic Rheumatism, and Observations on the Exhibition of Arsenic, in the protracted form of that Disease.—By GEORGE KELLIE, M. D. Leith.

FOR some time previous to the spring of 1805, the lady, who is the subject of the following observations, had been liable to occasional pains in the shoulders and arms. About the beginning of March that year, she experienced the first serious attack of rheumatism. The pains confined to the back of the neck and arms were severe, and accompanied with pyrexia. She was confined to bed, and for several days was sweated by means of antimonials and Dover's powder. She arose free from fever indeed, but much reduced and weakened, and the pain, sthough mitigated, were not removed. The whole arms were stiff and pained, and the wrists swelled and tender.

For some time after this, she took cinchona and the ammoniated tincture of guajac, and used various stimulating embrocations, with little relief. Her strength recruited a little, but the rigidity, pain, and swelling continued, and the disease assumed the character of obstinate chronic rheumatism. In the month of July, she went to Buxton, and used the baths there for five weeks. From these she was sensible of some advantage. The pains were mitigated, the swelling and rigidity of the articulations were somewhat amended, and the general health a little improved. On her return home, she was, however, still very far from well. The wrists were much enlarged, and the whole arms were shrunk, stiff, and painful. During September and October, she took the bark, and used daily exercise on horseback. Throughout the ensuing winter, she continued tolerably free from pain, though the swellings and rigidity persisted. With the return of spring, the pains also returned, and continued during the whole summer. The arms became more stiff and contracted, and the wrists and fingers more enlarged. In the winter, again she suffered less pain, but in other respects, there was little amendment. In spring 1807, the disease was once more aggravated, and persevered throughout the summer. In August she removed to the country, where she thought she reaped some benefit from change of air, milk diet, and daily exercise on horseback. On her return home, however, in September, I was not sensible of much improvement. The disease soon afterwards began to gain ground, and even to attack the lower extremities, which till then had been spared.

In this short sketch of protracted sufferings I have thought it unnecessary to particularize the different means of relief which were at different periods ineffectually tried. Bark, and guajac, in every form, separately and conjointly, antimonials, cicuta, hyoscyamus, and ther hododendron chrysanth. were given without advantage. Calomel, and other preparations of mercury, with and without opium, disordered the stomach and bowels so much, even in very small doses, that the effects of this mineral on the disease could never be fairly appreciated. Frictions, and a variety of local stimulants, were employed, without any very good effect. Cold sea-bathing was tried in two successive summers, but the disease seemed rather aggravated than relieved by it. The warm bath gave some relief, but though persevered in for a considerable time, made little impression on the disease.

Thus disappointed in every attempt, on the approach of the present winter, the prospects of my patient were truly melancholy; for at this season, instead of that remission she had experienced in the two preceding winters, the disease was rapidly increasing.

In the shoulders, elbows, writs, and fingers, she felt a constant dull uneasy aching, rather than acute pain, with a distressing sensation of heat running along the bones. The elbows were so rigid, that the arms could not be extended beyond an angle of 135°. The wrists were much thickened and enlarged, and on the outside, corresponding to the back of the hand, there was on each a large round puffy elastic swelling. The articulations of the fingers were enlarged generally; and there were besides on the knuckles, and on the finger points, at the insertions of the flexor tendons, little round very hard nodes, which felt like peas beneath the skin, which over them was inflamed. These, the wrist, and indeed the whole hand, were extremely painful when touched. From the rigidity and pain, the hands did not admit of being more than half clenched, and very little use could be made of them. The muscular parts of the arms and fore-arms were greatly shrunk, and appeared proportionally much more emaciated than any other part of the body, although generally much reduced in flesh and strength. At the stage I am now describing, my patient suffered also much in the lower extremities and loins. She complained greatly of pains and stiffness in the hip and knee-joints, and of extreme tenderness in the feet, so that she walked with great difficulty and pain, and could on no account get up or down stairs. The pulse towards evening rose to 90 and 100. She experienced, with exacerbations of pain, hot and restless nights, and invariably sweated towards morning. The urine was extremely high coloured, and deposited a very large quantity of pale lateritious sediment; the other functions were natural.

Such was the state of my patient, when, in the beginning of October last, I received Dr Bardsley's volume of Medical Reports, and the cases in which he had so happily administered the arsenical solution appeared so similar to this, that I resolved to give it a trial. A curious coincidence, too, in point of information, encouraged me still farther; for, the day succeeding that on which I had perused Dr Bardsley's book, I had an opportunity of conversing with a gentleman, a great sufferer from rheumatism, who had just returned from Dumfries-shire in perfect health, and able, as he himself said, to walk twenty miles with any Leith porter, having been cured by arsenic at the house of a lady of rank, who had herself been cured of a very obstinate chronic rheumatism by the same mineral, under the direction of a physician of Dumfries, who had in several other cases used it with marked advantage, when all more usual remedies had failed*.

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* This gentleman, I have since learned, did not continue long well. The disease returned; he had again recourse to the arsenic, with some relief; but after a long trial, was obliged to give it up, without having reaped all the advantage from it he too sanguinely had expected.

October 5th, 1807.—My patient this day began accordingly to take arsenic. I ordered five drops of Dr Fowler's solution in a cupful of milk, immediately after meals, three times a-day, viz. after breakfast, after dinner, and after supper.

October 7th.—No inconvenience or sensible effect from the medicine. Let her take seven drops three times a-day.

9th.—Experiences occasionally an uneasiness about the stomach, which she calls a craving faintness, instantly and completely removed by eating. Continue.

12th.—The affection of the stomach has gradually ceased; she is sensibly better; the pains of the lower extremities are greatly relieved; the fingers also are less pained; she is less hot and feverish at night, and she sleeps better. Continue to take seven drops three times a-day.

15th.—So much relieved in the lower extremities, that she now walks with ease, and can even go up and down stairs without pain. There is no pain, and but little stiffness remaining in the hips and knees. The feet are still a little tender; the wrists and fingers are much easier; the stomach bears the medicine without inconvenience, the appetite is indeed improved; the evening fever is gone, and she sleeps well. The morning sweatings have disappeared; the urinary secretion is observed to be increased; she thinks her face is swelled, though I am not sensible of this: But she insists that the face, and especially the eye-lids, feel stiff and swollen. Takes eight drops three times this day.

16th.—Takes nine drops three times this day.

17th.—Takes ten drops three times this day.

18th —Ten drops continued.

19th.—She has now completely recovered the use of her lower extremities, and feels in them neither pain nor remains of stiffness. She walks perfectly, and can sit down, and rise from the lowest stool. The pains have left also the fingers and elbows; the shoulders and wrists are still a little uneasy; the skin, formerly rough, dry, and scaly, has now, she remarks, become over the whole body remarkably soft and smooth: Thinks she is taking the medicine in too large doses, as she feels a return of that craving uneasiness and sickness at stomach, especially when it is empty. The face is sensibly swelled; she complains of heat, and itching of the eyes, and stiffness of the eye-lids; the lower palpebræ appear indeed very red. The dose to be reduced to seven drops three times a-day.

23d.—The medicine now agrees better with the stomach; the swelling of the face continues, with much heat and itching of the tarsi; the redness of the palpebræ has increased; she complains also of heat and soreness of the mouth, particularly of the inner surface of the lips and cheeks. She is now relieved from every rheumatic pain; the joints, too, are much more relaxed; she fully extends the left elbow, the right better than she did, though not yet so completely. She uses her hands with great freedom; the puffy elastic swellings on the back of the carpi are less, though still considerable; the small round hard nodes on the knuckles have undergone no sensible change; her general health is much improved; the appetite is good; she sleeps well; she is in high spirits, from the unexpected relief she has already obtained, and the prospect which now opens of a perfect cure: So that, though I now wished to suspend the use of the medicine for a while, she insists on persevering yet a little longer. Continue at the rate of five drops three times a-day.

26th.—The erythematous circle, surrounding the palpebræ, has extended a little down upon the face; the heat and itching of the tarsi have become very troublesome; the inner surface of the lips and cheeks is very tender and sore, and the salivary secretion is much increased. She has not the slightest remains of pain in any of the articulations, and she has recovered the use of the whole. She now walks and moves with the most perfect freedom; her hands and arms have become useful; the general swellings of the finger joints are much diminished; the little hard nodes continue as before; the swellings of the wrists are still considerable. The arsenic to be omitted.

27th.—Erythema continues; the salivation has been since yesterday, and still is profuse. It is, however, unaccompanied by any fœtor like that which attends the action of mercury.

28th.—Salivation decreased; erythema as before.

29th.—Salivation gone; erythema looks paler; the heat and itching of the tarsi going off.

November 1st.—The mouth and eyes are quite well; the erythema has gradually disappeared; the epidermis of the palpebræ and of the face is now dry, rough, fissured, and begins to desquamate. She continues free from pain, and has completely recovered the use of every joint, with the exception of those of the wrists and fingers, the wrists being still much enlarged, and the fingers rigid from the persistent little nodes. With the hope of contributing to their dissipation, I now applied to the finger joints and writs the epithem composed of gum-ammoniac and acetum scillæ.

5th.—The nodes on the fingers feel softer, and the swellings of the wrists are certainly somewhat lessened.

10th.—The nodes are stationary; the wrists still less swelled.

14th.—She is not so well; for two days past has complained of pain and tenderness of the right foot, pain of the wrists, and burning heat in the bones of the fingers, which at night, she says, feel as if boiling water was running along the bones. In bed, she is restlesss, hot, and uneasy. The epithem to be laid aside. Resume the arsenic, taking seven drops of the solution thrice a-day

19th.—Much relieved; she sleeps quietly and well; the pain has entirely left the foot; the wrists are better, and she no longer feels the burning heat in the bones of the fingers. The eye-lids have become stiff, and the tarsi tender. Continue.

24th —The pains have entirely disappeared; and the swellings of the wrists are considerably diminished. The erythema is again apparent on the lower eyelids; and the face is somewhat swelled. Continue.

28th.—She has not now the slightest rheumatic affection; the erythema is extending; and the face is more swelled. The arsenic to be discontinued.

30th.—The erythema is fading away; she continues free from pain; the stiffness of the fingers has been greatly relieved; and the swellings of the wrists have been reduced at least one half, since beginning the second course of arsenic. To assist the dissipation of the remaining swelling and stiffness, I now advised the local application of vapour, and frictions with tinctura saponis and aqua ammoniæ.

December 5th.—The local applications have been regularly used twice a-day, and with some small advantage; the fingers are a little less rigid; and the bulk of the wrists somewhat farther diminished.

10th.—Notwithstanding the local application, the wrists are again more swelled; the metacarpal bones and extensor tendons on the back of the hand are tender, and cannot bear to be touched; she also feels that painful burning heat in the finger bones, of which she formerly complained.

She this day begins again to use the arsenical solution, in doses of seven drops three times a-day.

15th.—The pains have subsided. Continue.

17th.—She feels quite well, and experiences no inconvenience from the medicine. Continue.

20th.—Continues free from pain of every kind; the fingers and hands are more relaxed and useful than they have ever yet been; the wrists are much less swelled; she thinks her face swelled, and feels the eyelids becoming stiff; but there is no observable erythema. Continue.

22d.—The swelling of the wrists still farther diminished; on the back part of the hands and fingers, a number of small erythematous spots have appeared. Omit the arsenic.

23d.—The erythematous spots on the hands enlarged.

25th.—Convalescent, and perfectly free from rheumatism; the erythematous spots are fading away.

From this last report, to the present day, February 15th, she has experienced no relapse, and has had no occasion to have again recourse to her specific; the strength and agility of the lower extremities are perfectly restored; the left elbow-joint can be completely extended; the right not so fully. There is still some general enlargement of the wrists; a sort of thickening beneath the flexor and extensor tendons, but the high puffy elastic swelling has disappeared. The fingers are supple and useful; and the complete clenching of the hands seems only prevented by the little hard nodes which still remain, though some of these are certainly softer and less. The muscles of the arms and forearms have acquired more plumpness and firmness; and the skin is natural, soft, and smooth: She has no pain; and enjoys a general state of good health, far surpassing what she has experienced at any period for three years before.

To this history, so fully delivered, I have but very few observations to add. The case was one of protracted and increasing chronic rheumatism, and of that kind in which Dr Bardsley has inferred, that arsenic was most likely to prove eminently useful. It had resisted every other mode of treatment; and the beneficial effects which so closely followed the exhibition of arsenic, are sufficiently apparent from the daily reports, and from the final result. In fact, the foregoing history includes three experiments with the arsenical solution. In the first, the mineral was regularly administered for twenty-one days; in the second, fourteen days; and in the third, for twelve days. The pains were removed, and the rigidity and swelling of the articulations relieved by each successive course of the medicine; and now she continues altogether free from the disease, with the exception of the little hard nodes of the fingers, and some fulness of the wrists, from the consequences of a rheumatism which had persisted for nearly three years.

In exhibiting arsenic, I have always given it immediately after meals, believing it less apt to affect the stomach when full than when empty; and in moderate doses I have, in this way, seldom found it to disagree; the appetite and powers of digestion were, on the contrary, improved; and the whole alimentary canal seemed to perform its functions better. The first good effect of the arsenic was, to remove the evening exacerbation, and consequently to procure quiet and easy nights; the morning sweats disappeared; and the rheumatic complaints gradually gave way. Independent of the relief obtained, the earliest sensible effects which I have observed arsenic to have on the constitution, in this and in some other cases, are swelling and stiffness of the face, beginning in, and chiefly affecting the palpebræ; heat, tenderness, and itching, of the tarsi; and an erythema commencing in the lower palpebræ, and spreading down the face. These effects, however, are not noticed by Dr Bardsley: He mentions a soreness of the mouth and salivation, which I have only observed in the patient whose case I have just reported, but the other effects have taken place more or less in every one to whom I have given arsenic for any time. The erythema, it will be remarked, appeared on the hands, during the last exhibition of the mineral; and I know another case in which erythematous blotches appeared on the legs. The urinary secretion is sometimes increased. A gentleman to whom I gave arsenic for fourteen days, for that variety of rheumatism which has been called rheumatic gout, though without any sensible advantage, experienced during its use a smart ardor urinæ. In another very interesting case, in which the medicine seemed to be giving relief, I thought it prudent, after a few days trial, to discontinue it, from the appearance of cough, and tenderness of the breast. The head I have never observed affected in any of my patients. Not one of them ever experienced the slightest headach or vertigo, during its use; nor has any one to whom I have given this mineral ever suffered any tremors or nervous affections. In no example have I ever given arsenic so freely as to the lady whose case I have here related; and her general health and strength have been much improved; she has acquired flesh, and every function is better performed than before. I have tried arsenic in three other cases of chronic rheumatism, but I must confess with little or no advantage. These were not cases of very long standing, and the muscular fibres or aponeurosis were in them more affected than the articulations or bones. It is, I apprehend, in inveterate cases of articular rheumatism, that arsenic will be found chiefly to exert its beneficial effects.

From all I have observed, I have little apprehension of risk, in a guarded and judicious use of the arsenical solution. It will always be proper to begin with the smallest doses, in order to ascertain how it agrees with the stomach. Having suited the dose to this, I am of opinion, that the sensible effects I have pointed out, may serve as indications and rules for its farther management. Thus, the feeling of swelling and stiffness of the palpebræ and face, heat, soreness, and itching of the tarsi, or tenderness of the mouth, are proofs that the medicine is exerting its specific effects on the constitution; that the dose has been carried to a sufficient extent; that it is time to decrease the dose, and attentively to watch its future effects. On the appearance of the erythema or salivation, it is time to interrupt altogether, for a while, the exhibition of arsenic; if necessary, it may be resumed when these symptoms have vanished.

If pain of the stomach, nausea or vomiting supervene; if the head be affected with pain or vertigo; or should a cough, with any signs of irritation of the pulmonary organs, be observed, the use of arsenic should be totally and for ever abandoned.

Leith, February 15. 1808.

IX.

Case of Jaundice, occasioned by the pressure of a large Hydatid in the Liver, situated in the region of the Vena Portarum. By ANDREW DUNCAN, sen. M. D. Professor of the Institutes of Medicine in the University of Edinburgh.

MARCH 18th 1807.—John Brown, a labourer, aged 38. The whole abdomen is very much enlarged, and affords to the touch a distinct sense of fluctuation. When in the erect posture, there is observed, about the upper part of the right hypochondriac, and extending over the greater part of the epigastric region, a large circumscribed tumour, possessing evident fluctuation, which subsides immediately on his assuming the horizontal posture, when an uniform tense swelling occupies the whole abdomen. Pressure applied under the margin of the false ribs, on the right side, excites so considerable a degree of pain as to cause him to wince under it.

The skin over the whole body, and the tunica adnata of both eyes, are of a deep yellow colour. The urine also is observed to have a very dark yellow appearance, and linen, when immersed in it, is very deeply tinged. The alvine excretion is said to be of a white colour, and rather thick consistence.

He is affected with occasional sickness, and inclination to vomit; but he has never complained of pain in the epigastrium. He complains of great dyspnœa, which is always most severe in the morning, and is induced on stooping forward or making any exertion. He is also much affected in the evening, particularly at first lying down, with a severe cough, which, by his account, is extremely urgent, except when lying on the left side; and is accompanied by a difficult, though copious viscid expectoration, having a bad taste and smell. It excites the dyspnœa to a great degree, which then requires the erect posture.

Pulse 100; tongue white; great thirst; heat moderate; urine very scanty; belly costive; and he is distressed with frequent tenesmus; appetite much impaired; sleep disturbed by frequent startings.

About six months ago, the period from which he dates the origin of his complaints, he was affected with an obtuse gnawing pain in the right hypochondrium, which was much aggravated on pressure or motion, and stretched to the shoulder of the same side; at which time, the yellowness of his skin and eyes, and deep colour of his urine, were also first perceived, but they are since much increased. He says, however, that the pain of the hypochondrium and shoulder ceased six weeks ago to be constant, and that now it only returns occasionally. The tumefaction of the abdomen was first observed eight weeks ago; but for a fortnight this was noticed only in the morning, and disappeared during the day. During the last six weeks it has been constant, and for the same time the quantity of his urine has been daily diminishing. He also says, that about a fortnight ago, for three days his legs and feet became œdematous towards evening, but that he cannot now perceive this. The dyspnœa and cough have continued to increase in proportion to the increasing tumefaction in the abdomen.

He does not assign any cause for the symptoms with which he was first attacked, but it appears that, as a labourer in a distillery, he has had a pretty liberal allowance of ardent spirits for three years. He attributes his swelling of his abdomen, and consequent dyspnœa and cough, to very hard labour, after which he was exposed to cold while in a state of profuse perspiration, when he swallowed a large quantity of very strong spirituous liquor. He has taken a few purgative pills, but no other medicines. Sumat vespere pil. scil. gr. x.

19th.—Has had two stools since he took the pills at bed-time, and thinks the tension of his abdomen somewhat diminished. Yellowness nearly as before; urine still very scanty, and very high coloured. Continuentur pilulæ sciliticæ, et inunguetur abdomini unguentum hydrargyri ad ʒij vespere.

20th.—Used the ointment last night as directed; has had one stool since last visit, of a whiter colour than natural; swelling and tension of the abdomen nearly as before, and there is no change in the yellowness of his skin and eyes; urine lib. iß. of a very high colour, and turbid; pulse 80; heat natural. Continuentur pilulæ et unguentum.

21st.—Complains much to-day of gripes; urine about lib. i. and very high-coloured; yellowness nearly as before; belly rather bound. Continuentur medicamenta, et capiat statim infusi tamarindorum cum senna ℥ij. et repetatur omni horâ ad quartam vicem, nisi prius supervenerit catharsis.

22d.—Has had three stools from his purgative; the fæces discharged are still of a white colour; urine as high coloured as before; the swelling of his abdomen is rather increased, with a considerable sense of tension, but less obvious fluctuation than before. Continuentur unguentum hydrargyri. Intermittantur infusum tamarindorum, et

℞ Submuriatis hydrargyri
Pulveris radicis scillæ exsiccati utriusque grana xij.
Extracti gentianæ
Saponis Hispani utriusque ℈ij.
Syrupi simplicis q. s. fiat massa dividenda in pilulas xxiv.
Capiat duas omni mane et vespere.

27th.—Urine lib. iij. he has had two stools since last visit, of the same apearance as before; his legs are observed to be much swelled in the evening; pulse 88; heat natural. Continuentur medicamenta.

31st.—Urine and stools as before; he complains much to-day of pain of his back. Continuentur medicamenta, et illinatur pars dolens dorsi tincturâ saponis cum opio.

April 1st.—Pain of back rather easier since it was rubbed with the anodyne balsam; urine and stools as before; pulse 86; heat natural. He complains of some soreness in his gums, but has no spitting. Continuentur medicamenta, ut antea.

2d.—Pain of back easier; urine lib. ij. of the same appearance as before; pulse 86. Continuentur medicamenta, ut antea.

3d.—Complains of soreness of his mouth and gums, but there is little obvious affection; pulse 86; belly bound; urine and skin as formerly. Continuentur medicamenta, et capiat statim, olei ricini ℥j.

4th.—Has had two stools from the purgative; mouth rather more affected; urine lib. iij. Intermittantur oleum ricini, et unguentum hydrargyri. Continuentur alia.

5th.—Still complains much of his mouth, but his spitting is not considerable; urine lib. ij. and rather less high coloured than formerly, but the appearance of his stools is not changed; pulse 86; belly regular. Continuentur pilulæ calomelanos cum scilla.

6th.—Has still considerable pain in his mouth; urine less high coloured; pulse 90; heat moderate. Continuentur pilulæ, ut antea.

7th.—Mouth nearly as yesterday; urine lib. ij. of a less deep tint; his stools have now somewhat more of a yellow appearance; pulse 80; belly natural. Continuentur pilulæ calomelanos ut antea.

8th.—Has slept ill, and complains much to-day of weakness; urine and stools as yesterday. Continuentur pilulæ ut antea.

9th.—Urine lib. iij. and less high coloured, but still tinging linen of a deep yellow; his stools have a more natural appearance, but he still complains of great weakness; mouth as before; pulse 80; heat natural. Continuentur pilulæ ut antea.

10th.—Urine lib. iij. and he has had three stools; pulse 80; heat natural. Continuentur pilulæ, ut antea.

11th.—Urine lib. iiss. and of a less deep colour than before, but his skin is still very yellow, and his stools have not obtained the natural appearance; he has had, during the night, a considerable hemorrhage, which, he thinks, proceeds entirely from his mouth; he is very weak, and much emaciated; pulse 70; heat moderate.

Intermittantur pilulæ scilliticæ.
Habeat indies vini rubri Lusitanici, ℥viij.

12th.—There has been little discharge of blood, and he feels somewhat renovated by the wine. Coninuentur vinum, et repetantur pilulæ, ut antea.

13th.—Has had one stool since last visit; urine lib. iij.; pulse 86; heat moderate, weakness rather increased. Continuentur vinum et pilulæ, ut antea.

14th.—Urine about lib. iij. and he still complains of very great weakness. Continuentur pilulæ et vinum, ut antea.

15th.—Has had three stools since last visit; urine lib. iij. and rather of a lighter colour; he still complains of great weakness, and of much soreness of his mouth. Continuentur medicamenta.

16th.—There is no return of the hemorrhage, but he complains of a great sense of coldness, and his weakness is nothing diminished. Continuentur pilulæ et vinum.

17th.—Has had three stools; urine lib. iiss. still very dark coloured: weakness daily increasing. Continuentur vinum. Intermittantur pilulæ scilliticæ.

Capiat horâ somni pilularum Thebaicarum grana x.

Let him have a bason of beef-tea daily.

18th.—Slept well after the pills; urine lib. ij. and he has had two stools since the last visit; weakness nearly as yesterday. Pulse 86. Continuentur vinum et pilulæ thebaicæ, ut antea.

19th.—Takes his wine and beef-tea freely, but his weakness is rather increased; he is now free from the looseness; urine not above lib. i. yellowness as before; pulse 60, and very small. Continuentur pilulæ thebaicæ, vinum et diæta.

20th.—Died last night about eight o'clock.

The history of this man's case, which occurred in the clinical ward, was drawn up by my clinical assistant Mr Wightman, and is in some respects singular and highly worthy of notice. At his admission he evidently laboured under a complication of jaundice and dropsy; and although these appeared to be the most alarming of his complaints, the tumour in the right hypochondrium attracted much attention on account of its unusual phenomena, disappearing in the horizontal position, and evidently containing a fluctuating fluid. It was thought to be water contained in a sac, but, to this opinion, its disappearance immediately on his lying down, when there was nothing to be discovered but the uniform swelling of the abdomen, was a strong objection. Hence I concluded, that it had some communication with the cavity of the abdomen; and it appeared to be somewhat similar to a case which I had not long before attended with Mr Dewar.

A gentleman from the West Indies put himself under our care for a complication of affections. Among these, there was a considerable degree of ascites, and a considerable projecting tumour at the umbilicus, which was evidently not hernia, but water. It had distinct fluctuation and communication with the abdomen, for although it did not disappear in a horizontal position, it could be emptied by pressure. From different circumstances, particularly from the habit of the patient, we did not think artificial evacuation of the water advisable in this case, but we often suspected that spontaneous rupture would have taken place. This, however, did not occur; and, by the use of powerful diuretics, a large urinary discharge was obtained. Both the general ascites and the tumour at the umbilicus disappeared, and the patient returned to the West Indies in tolerable health.

The analogy of these two cases led me to suppose that, in the erect posture, the water of the dropsy escaped through some rupture of the peritoneum, out of the proper cavity of the abdomen, into a sac, probably formed of condensed cellular membrane.

I ascribed the dropsy in the present instance to a diseased state of the liver, from excess in spirituous liquors, and accordingly directed the treatment to its removal. I had, however, very slight hopes of success, and expressed my opinion, that if the death of the patient should afford us an opportunity of examining the body, we should find that some fixed obstruction had long existed to the passage of the bile into the intestines, as complete, indeed, as if a ligature were applied round the ductus communis. The examination was performed with great minuteness by my friend and colleague Dr Monro jun. and proved extremely interesting. It confirmed my conjectures with regard to the affection of the liver, and to the existence of a fixed obstruction to the passage of the bile; but it discovered a cause for that obstruction which, I believe, has never before been observed, and it explained the nature of the tumour of the hypochondrium, and the reason why it appeared in the upright position, and disappeared when the patient lay on his back.

Appearances on Dissection.

The dropsical water in the abdomen was as dark coloured as the urine of the patient was on his admission, and gave a deep yellow tint to cloth immersed in it. The impregnation from bile had, indeed, gone farther than in any case I recollect to have seen, for the cartilages of the ribs were coloured by it to the centre.

The surface of the liver had somewhat of a mottled green colour, very like to many marbles, and more especially to the Portsoy serpentine. The substance of the liver had also the same appearance, with the exception of the centre of the right lobe, which was rather of an olive or dirty yellow colour.

The liver was of an uncommon bulk, and the convex surface was more prominent than usual towards the middle. This was not owing to any disease in the glandular part of the organ, but to a sac of a yellow colour, and of the size of a large orange, though of an oval shape, and irregular in its surface, situated in the region of the portæ of the liver.

Over this sac, which was filled with hydatids, the vena portarum, the hepatic artery, and its great branches, as also the hepatic nerves, which were much larger and much harder than common, passed; and the branches of the hepatic nerves could be distinctly traced along the gall ducts.

The hepatic, cystic, and common ducts were so much stretched in their course along the surface of the large sac, as scarcely to admit of air to pass through them. The ductus communis was much enlarged in the portion not compressed next the liver.

The gall bladder contained but a small quantity of bile, and, from being contracted in several places, had an irregular figure, and scarcely exceeded, in size, that of a child's at birth; and, the Biliary Ducts.

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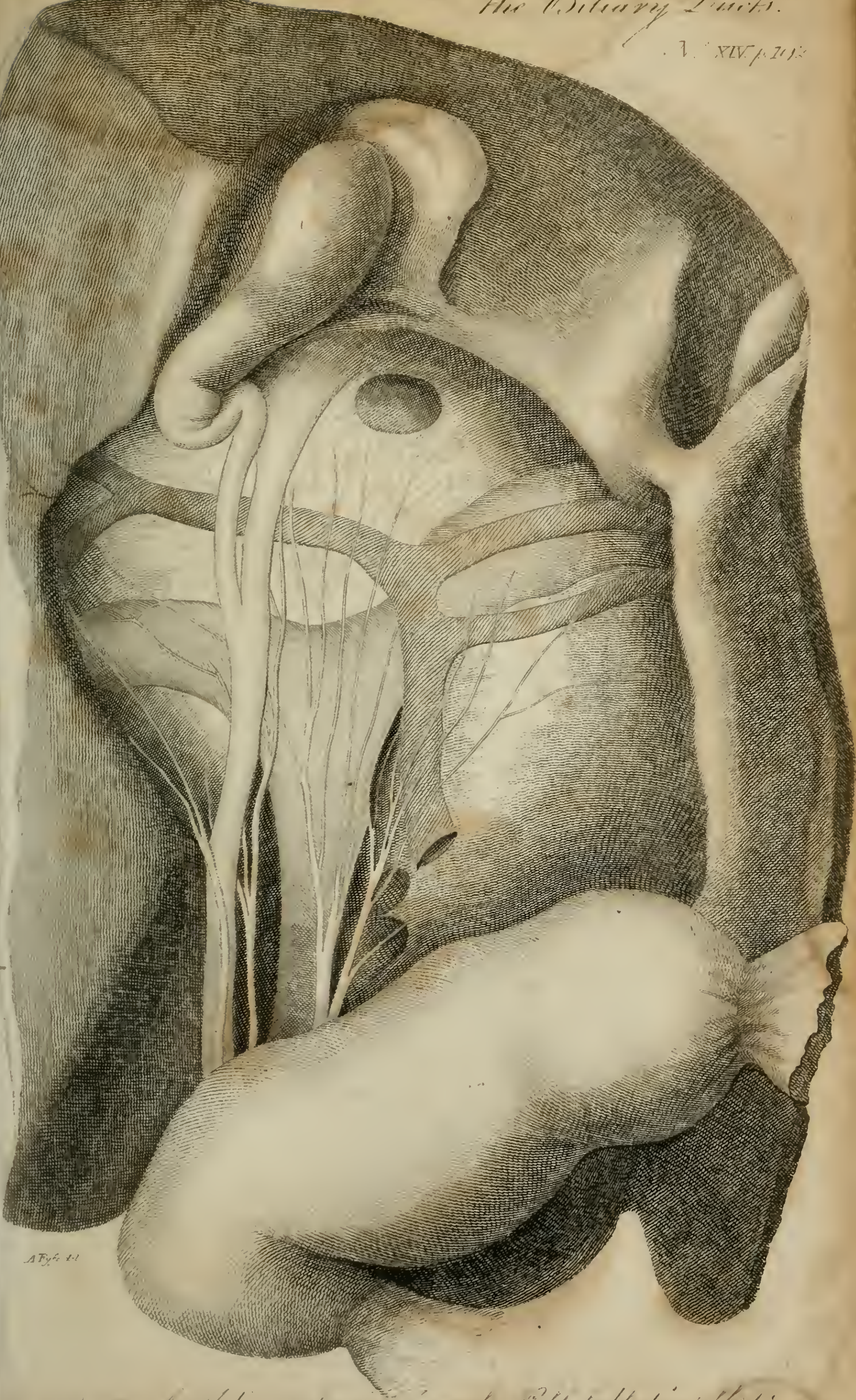

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that of a child's at birth ; and, over this bowel, there was a broad preternatural membrane uniting the liver to the great arch of the colon. The lymphatics from the liver did not contain bile, and were not coloured by it.

The adjacent parts betrayed marks of previous inflammation. The stomach and great arch of the colon were more intimately united than usual by the omentum ; and there was also a strong adhesion between the liver and the kidneys.

All the parts adjacent to the liver, more especially the kidneys, were tinged of a deep yellow colour.

The annexed engraving made from a very accurate drawing by Mr Fyfe shews distinctly the size, form, and relative situation of the hydatid, with the ducts, vessels, and enlarged nerves passing over it.

X.

Biographical Sketch of Dr WILLIS.

AMONG the various plans for the improvement of medicine which may be expected to arise in those countries which have arrived at a high state of civilization, such as relate to the treatment of insanity are, unquestionably, the most important. If the progress towards an accurate knowledge of the diseases of the mind kept pace with the number of cases, the philanthropist might calmly sit by and observe with growing satisfaction the advancement of the healing art to those degrees of perfection of which it seems to be capable. But, unfortunately, extreme refinement in the modes of practice has a contrary tendency: the treatment of maniacs is too often abandoned to the keepers of houses of confinement ; and the desire of making money is apt to extinguish that cordial interest which physicians ought to feel for the welfare of their patients ; while the indolent occupation of prescribing for frivolous complaints, and the glittering trappings of wealth dazzle and corrupt those who seek them. To produce, in every lunatic, associations and habits which will enable them to perform the business of their respective stations, is the only treatment that can properly be called medical, and the more widely this mode of treatment is diffused, the more successful will our practice become. With the view of making known how much can be accomplished by well-directed efforts in cases of mental derangement, we have collected the following scanty particulars of the life of a man justly celebrated for his skill and success in that line.

Francis Willis, M. A. and M. D. was born in 1717, and died in the the month of December 1807, in the 90th year of his age.

He was a clergyman as well as a physician, though he devoted his attention almost exclusively to the treatment of insanity. He was a remarkably active, hale, and good-looking man; and about five years before his death, he rode ninety miles on horseback in one day, to give his voce at an election. He had been indisposed some weeks; but the day before he died he was well enough to walk twice to a neighbouring village, at the distance of nearly a mile, to visit a patient, and the next day he continued without any apparent change of health till after dinner, when he complained suddenly of being very ill, and five minutes after expired in his chair.

He was of Brazen-nose College, Oxford, M. A. 1740, B. and D. M. 1759. He has left five sons by his first wife, one of whom has long assisted him in his establishment for lunatics. Dr Willis acquired great celebrity both in this country and throughout Europe, for his skill in curing insanity. In consequence of the fame he acquired by his attendance upon our Sovereign, his assistance was sought for the Queen of Portugal; he went to Lisbon, and had that Royal Personage for some months under his care, but without much success. Switzerland used to send many patients, especially the town of Geneva, where the comparative opulence of the people probably contributed to furnish the doctor with more patients, and their connexion with England might render his reputation more familar than in other parts of the continent. Persons who have been restored to their families and friends in different parts of the world, all speak with strong feelings of gratitude and respect, of the kind treatment they received, and the relief they experienced, from their amiable and benevolent physician. One elderly lady, who had been for some time under Dr Willis's care, and recovered, though she continued subject to occasional fits of insanity, requested to reside in his house, because she was so happy in his company, and was so confident of receiving the best assistance in case she had any relapse.

Dr Willis lived at Greatford, in Lincolnshire, and he there had one of the largest private establishments in the kingdom for the reception of lunatics. His house was pleasantly situated, with grounds and plantations neatly laid out around it, where his patients could enjoy salutary exercise, and have interesting natural objects continually before their eyes. Some of those entrusted to his care were distributed in the neighbouring villages, with proper attendants to wait upon them and overlook their conduct. An asylum in the country is much more adapted "to heal the wounded spirit," and to correct the morbid trains of thought, than a crowded hospital in the midst of a large town. The calm retreat, the multitude of agreeable objects, the kind and benign aspect of the physician, his constant superintendence, the select society of strangers in similar circumstances, the fear of being put to shame, must all have a favourable effect in promoting the cure. Dr Willis never published any account of his method; but from what he declared upon a memorable occasion, when the question of a regency was warmly discussed, when he distinguished himself by the manly and bold avowal of his opinion, by giving a favourable prognosis with regard to his Majesty's illness, it appears, that a very great majority of persons afflicted with mental derangement, nine out of ten, recovered, particularly those who have been placed under his care within three months after they had begun to be afflicted with the disorder. The statement, however, has been declared incorrect, as far as it relates to the precise number of cases, for, in some kinds of insanity, the proportion of cured is greater, in others it is less.

From what can be gathered from the few sources of information to which we have access, the patients at Greatford were treated like human beings; they were managed like children, and not shut up or chained down like wild beasts. Moral means were principally trusted to, yet physical ones were never neglected. The patients were taught to fear and to love their physician; they were admitted to breakfast, and dine with him, and in the company of others, as long as they behaved well and could restrain their feelings; whenever any one transgressed the rules of good behaviour, the strait-waistcoat was employed as the badge of disgrace. No chains or bandages were ever made use of, and the strait-waistcoat only in cases of extreme necessity. One of the principal means he employed was to have the attendants or keepers always appear as servants to the lunatics, appointed to wait upon them and to supply all their wants; but these servants were under the controul, and received instructions from their master, the physician, which they dared not, on any account, disobey, and they could not allow any orders to be infringed against without permission. Besides relieving the attendants from a disagreeable situation, this served to give the patients a very high idea of the power of their physician, of whom they never can be brought to think too highly; they ought to feel that their fate rests in his hands, and that no person in the world is of greater consequence than he who has the management of their health.

Of physical remedies, emetics were most preferred by Dr Willis. Opium, he thought, did harm; and when narcotics were required, he employed hyosciamus. Blisters on the neck he found hurtful. When the strength of the body wanted to be increased, he gave the Peruvian bark, and he used this in large quantities. Digitalis was considered serviceable in some cases. Dr Joseph

Frank learnt thus much in conversation with Dr John Willis, and one other fact, which is of some importance, viz. that Dr Willis had never observed any thing peculiar in the formation of the skull among his patients.—*(Vide Reise nach London, 2ter Band)*.

Various objections are raised against sending a madman to a place of confinement, even among the highest and lowest classes of society. A principal one is the fear of severe and cruel treatment, and the hazard of making the disorder permanent; but these apprehensions are groundless; for there must be some grievous defect in the mode of correcting the disordered mind, if correct sentiments and rational and orderly behaviour, are not inculcated by the habit of self-denial, and strong efforts of the will. Let the appeal be fairly made, by visiting a maniac at his own house, or at a large establishment appropriated for the reception of such persons. Patients in bedlam are, in general, not only more orderly, but more rational and tractable than those in a private house, where the continual fluctuations of temper and apprehension among friends, lead alternately to improper indulgence or undue severity. Such treatment will both confirm the morbid associations, and enervate the natural character, just as sullenness and ill-humour are the natural consequences of irregularity and inattention in the early part of life. If great advantages are derived from lunatic hospitals, (imperfect as they have hitherto been, and little as their managers in general understand the art of forming the characters of their patients), how beneficial may they become under the direction of a benevolent physician, who, instead of confining his efforts merely to make the noisy quiet, and the sullen to eat and speak, labours with redoubled attention to rectify the disorders of the several powers of the mind, to excite its healthy action, and by the fine, yet simple contrivance of making a society or school of their own, exhibits the interesting sight of the melancholic gaining health and spirits, and the maniac restored to take his station again in the extensive society of the world? Such seems to have been the plan of the late Dr Willis, and the number of those who have recovered under his care, will best testify how well he reduced such a plan to practice.

THE INQUIRER, No. XIII.

The Editors will consider themselves obliged, if any of their correspondents will honour the following queries with some attention, and favour them with their answers:

1. *A Case for Consultation.*

A lady, æt. 24, of a strong constitution, yet with some marks of a scrofulous habit, in the sixth month of pregnancy, had a disease in her knee-joint; the disease was of several months standing, but now became considerably aggravated; every means were employed to alleviate the symptoms, but in vain; amputation was obviously indicated as the only chance for saving her life, but the operation was deferred on account of her situation. Several eminent surgeons were consulted, who gave it as their opinion, that the operation might be advisable to preserve her life, but it was forbidden by most writers, and looked upon as fatal to patients in the latter months of pregnancy. The lady was delivered at the full period, without any unusual circumstance, and died in a fortnight after her delivery.

Query.—In a case of diseased joint, or compound fracture, is the state of pregnancy an insuperable objection against doing what in ordinary circumstances ought to be done? Does experience justify deferring the operation? Are there any cases on record of capital operations performed on a pregnant subject, and what has been the result?

2. *Influence of the Will upon the Action of the Heart.*

In Dr Cheyne's "English Malady," there is a very singular case related of the Honourable Colonel Townshend, who had acquired the power of suspending the action of the heart and lungs at pleasure, a few days before he died. He had for many years been afflicted with a nephritic complaint, attended with constant vomitings. He told Dr Cheyne, Dr Baynard, and Mr Skrine his apothecary, who attended him in his last illness, that he sent for them to give them some account of an odd sensation he had for some time observed and felt in himself; which was, that, composing himself, he could die or expire when he pleased, and yet by an effort or somehow, he could come to life; which it seems he had tried. His pulse was distinct, though small and thready, and his heart had the usual beating before making the experiment. He composed himself on his back, and lay in a still posture for some time; his pulse sunk gradually, till at last it could not be felt by the most exact and nice touch; not the least motion could be felt in the heart, nor the least soil of breath perceived on a bright mirror held to his mouth; not the least symptom of life could be perceived. He continued thus for half an hour; the motion of the heart was then observed gradually to return, and he recovered again; executed some business; and died that same evening, about five or six o'clock. These three gentlemen went away fully satisfied as to the particulars of this fact, but confounded and puzzled, and not able to form any rational scheme that might account for it. On dissection, every part of the body was very sound and perfect, except the right kidney, which was much diseased.

Query.—Has any similar case been observed? *Fontana* is said to have acquired such command over the action of his heart, that he could accelerate or retard his pulse at pleasure. Is the heart to be considered as a muscle subservient to the will? What state renders the power of the will so remarkable in these instances?

3. *Hydrophobia.*

Several persons of late have adopted the fashion of denying the existence of every phenomenon which has not fallen under their own observation, and pretend to deny the existence of hydrophobia, as a specific disease arising from the bite of a mad dog, or any other rabid animal. The truth of many histories of this disease is attested by men of great talents and celebrity, both ancient and modern. Now, it is asked, whether there is more than one instance upon record of genuine hydrophobia produced by any other cause than a bite? Has anybody seen hydrophobia induced by terror, or by inflammation of the stomach or œsophagus, without being able to trace it to a bite from a dog, or any other rabid animal.

4. *Urinary Calculi.*

It is a common notion, that water impregnated with sulphat and carbonat of lime, constituting what is called *hard water*, predisposes persons to be afflicted with the stone and gravel. Dr Henry, in his excellent Thesis, very justly looks upon this opinion as an unfounded prejudice. Calculous complaints are very common in Norfolk, and very rare in Lancashire, although the water in both these counties is equally impregnated with earthy matter. Whence the origin of this vulgar error? Is the stone and gravel more prevalent in districts where chalk abounds? What is the average number of stone-patients admitted into the different hospitals in the kingdom, since the reports collected in Dr Falconer's publication? What is the average success of the operation of lithotomy in any hospital, or in the practice of any individual?

5. *Tic Douleureux.*

That painful affection of the face, called *tic douleureux*, is apt to return even after the nerve has been divided, and the wound kept open for some weeks, by stimulating dressings. What are the best means for securing the success of the operation? Are there any instances, in which the branches of the diseased nerve have been divided, and the patient has remained perfectly free from the complaint for a long time, say for ten or twenty years?

6. *Substitute for Opium.*

Opium is now become so extravagantly dear, and so much adulterated, that it is well worth inquiring, what is the best substitute for it? Preparations of the hop plant (humulus lupulus Lin.) deserve attention, and extracts may be made from the poppy or the lettuce. It would be conferring a favour upon the profession at large, if any of your intelligent correspondents would furnish us with the results of comparative trials with different narcotic vegetables?

7. *Dysuria.*

Dr Percival, in one of his Essays, mentions a kind of dysuria produced by gout. What are the diagnostic symptoms of this disorder, which serve to distinguish it from stone in the bladder; and what is the best mode of treating it?

8. *Lime in Animal Bodies.*

From what sources do the different classes of animals derive their lime?

9. *Cephalalgia.*

What are the distinct kinds of headach; how are they to be distinguished; and what is the best method of relieving them?

10. *Cancer.*

Cancer seems to be a sexual disease; it attacks the breasts and uterus in women; the scrotum and the lips in men. Does it ever affect the lip in the female that has no beard; or is it ever seen in the breast of the male which performs no sexual function?

11. *Galvanism.*

What are the medical uses of galvanism? Has it any specific advantages over the application of electricity? In what diseases has experience testified its utility?

12. *Measles and Scarlet Fever.*

What are the objections to inoculating measles and scarlet fever? Have any attempts been made to propagate measles by inoculation, since those experiments made by Drs Home and Darwin? Let it be established, that these two diseases only affect the body once in the course of life; and then, why not confirm the analogy with small-pox and cow-pox still farther, by employing inoculation?

PART II.

CRITICAL ANALYSIS.

I.

Du Degré de Certitude de la Médecine. Par P. J. G. CABANIS, Membre du Senat Conservateur de l'Institut National, de l'Ecole et Societé de Médecine de Paris, &c. Nouvelle Edition; revue, corrigée, et augmentée de plusieurs autres ecrits du même auteur. A Paris. 1805.

THERE is no want of essays on the speculative parts of medicine, but there is a great deficiency of faith and enthusiasm for the improvement of the practical parts. The fondness for theory has subsided, and an opposite spirit of sceptical indifference seems to have taken hold of most mens minds; for, in the late bustle about medical reform, not a word has been said about reforming the modes of practice; it seems to be taken for granted, that the method of curing diseases is well understood, and that it is only necessary for persons to go to the proper schools long enough to learn their lessons. Now, in order to study and to practise medicine as it ought, we must consider it as an object of importance; and the first requisite for attaching the true degree of importance to it, is to believe that it is founded in nature and truth. If the art itself has a solid basis like other arts and sciences, if it can be useful, if the consolations it affords are necessary to the unfortunate sufferer, if it be the interest and the duty of the public to encourage and watch over its labours, too many incitements cannot be employed to lead young men, who are destined for the practice of physic, to devote themselves entirely to it, to make them feel all the dignity of their office, and to inspire them with zeal in the pursuit. Such was the object of M. Cabanis in composing this little essay on the degree of certainty belonging to medical science; and we think it is better calculated to make good and conscientious practitioners, than long stories and stale jokes upon every part of the profession, if the times should ever become so degenerate as to retail these substitutes for practical precepts from professors chairs.

Our author, in an introduction of some length, endeavours to demonstrate, that disease and death are the necessary consequences of the laws of the animal economy. Man, from his very constitution, is more subject to the causes of disease than the other animals, even if civil institutions and social customs did not expose him still more to many unhealthy impressions. The desire of prolonging life, and of avoiding pain, is as natural as to suffer and to die. Nature teaches us to change an uneasy posture, to apply the hand to painful parts, to relax the integuments by the application of gentle heat and moisture; she points out the necessity of repose, and removal from noise, as soon as the functions of our organs are disturbed by fever. Singular appetites, or longing for remarkable articles of food, which cannot be accounted for, often suggest the means requisite for recovery. In short, all our wants are changed into sufferings when they are not supplied; and as nature makes a declaration of this sort in the clearest manner, we may, as an ancient writer observed, give the name of a remedy to every thing that satisfies a want, and call *instinct*, or the cause of those spontaneous actions, *the first of physicians.* Although medicine, founded upon instinct, must necessarily be very limited in civilized life, because it is influenced by a crowd of ideas, passions, and prejudices, which do not disturb its operation in a simple state of society, yet it ought never to be lost sight of, although it is far from furnishing such enlightened directions as some enthusiastic writers have asserted. Passing over all the hypotheses concerning the natural state of mankind, the author takes man as he is in society, and sets out upon inquiring whether the principles of medical science can be shewn to rest upon a solid basis, by observation and plain reasons, deduced from experience, or if the reproaches cast upon the art by philosophers and the vulgar have any foundation?

The objections against the certainty of medicine may be reduced to the six following, which the author states, and then ingeniously endeavours to refute. Perhaps we may be thought to attach more weight to some of these refutations, from finding a confirmation of some opinions of our own, which were published in a former number of this Journal, long before this essay came into our hands. Indeed it is only till very lately that we met with it, although it has been published some time. If it had been known to us sooner, it would have afforded us additional motives for insisting upon those notions, when supported by the authority of such a writer as Cabanis.

The following is a brief statement of the reasons alleged by the detractors of medicine:—

1st. The secret springs of life are hidden from observation, and we have no precise idea, either of the principle which animates our bodies, or of the means by which it exercises its influence.

2d. The nature and proximate causes of diseases are quite unknown.

3d. Diseases are so various, and so susceptible of complication, that no fixed rule can be drawn from the most accurate observations to enable us always to discover them; they undergo so many modifications from age, sex, temperament, climate, season, state of the atmosphere, accustomed regimen, occupation, and habitual complaints; and are influenced so much by habitual passions, and by the state of the mind, that it is impossible, amidst so many different causes, to discover what belongs to each case, to attribute to each phenomenon its just value and natural place, or to form a suitable plan of treatment; in short, to draw inferences so certain and so conclusive, as to be worthy of the importance of the art.

4th. The nature of the substances employed as remedies is mysterious; their mode of acting upon our bodies is still more obscure, and it seems as if we had no way of arriving at this knowledge.

5th. Medical experience is more difficult of attainment than a knowledge of diseases from observation, more doubtful even than the diagnosis and prognosis which it furnishes. The effect of a remedy may be determined by a multitude of causes which the physician cannot detect. The silent, yet constant operation of that vis medicatrix, always tending to re-establish order in organized bodies; the progress of the disease itself, whose nature may not be rightly understood; the changes produced in the physical or moral condition of the patient, or in the external circumstances around him; all these things are liable to impose on the severest judgment, to lead a physician to attribute his success to a series of combinations which are directly the reverse: and here is evidently an inexhaustible source of error, both for the art itself, and for him who exercises it.

A cure follows the application of a remedy; the remedy therefore has produced the cure, "*post hoc, ergo propter hoc.*" This is a specimen of very bad reasoning, undoubtedly; yet, by such a fallacious rule as this, all the articles of the materia medica have been classed, and the method of administering different remedies has been reduced to a system. Nothing demands more enlightened understanding and caution than the discovery of truths of this kind: for, in inquiries after them, nothing is easier than to be led astray, even whilst pursuing the right path, nothing more uncertain than the proofs upon which the results are supposed to rest, when we think we have obtained what are perfectly sure.

6th. If medicine was well founded, the theory would at all times be the same; the practice, too, would not differ in one age from another; ancient and modern physicians, men of all schools and all countries, would agree at least upon some important points; whereas, in running over the history of medical opinions, what a difference in their views, how contrary their methods of treatment!

Examination of the first objection.—It is acknowledged on the one hand, that the nature of the causes which move animated bodies is hidden from our researches, and, on the other, the circumstances which have a direct influence on its action in different organs, are equally unknown. If a knowledge of these were necessary to serve as the basis of the healing art, the art itself fails in its essential and fundamental part. The question, then, is reduced to this,—to ascertain whether it be absolutely necessary, or, at least, whether it would be advantageous to penetrate into the essence of the vital powers, and to have a precise notion of their mode of operating upon the human body?

Man knows the essence of nothing: neither of matter, which is always before his eyes, nor of that secret principle which animates and determines all the phenomena of the universe. He often speaks of some causes which he flatters himself he has discovered, and of others which he laments his inability to find out; but the first causes are concealed from him as well as the very essence of things. He sees effects, or, rather, he receives sensations; he is constantly observing new relations; he arranges them in order to fix the recollection of them in his mind, to appreciate them better, and to draw from them what may contribute to his preservation, or afford him fresh enjoyment: this is the sum and substance of human knowledge. It is worth considering, how far the knowledge of first causes, in the pursuit of which so many profound lucubrations have been so uselessly expended, is really applicable to the wants of mankind. Is it necessary to understand what power balances the ocean, what primitive law directs this power to act with such regularity, in order to observe the regular course of the ebbing and flowing of the tides, for vessels to go down or ascend the mouth of a river? Is it necessary to understand the cause of affinity, electricity, and cohesion of different bodies, in order to perform all the physical or chemical operations upon these properties? Must the secret cause of vegetable life be snatched from nature, must the instinctive and peculiar propensities of the plants be discovered, before agriculture can be invented, or brought to any degree of perfection? Certainly not. It has fallen to the lot of man to observe facts, and this is sufficient for him; he knows nothing of the nature of causation. We are ignorant of the cause of digestion; yet we are not less attracted by involuntary desires towards those substances most serviceable for food. By observing the different effects produced by different articles of diet, and by comparing those in different individuals, with our own experience, we endeavour to draw rules for dietetics, such, for example, as those which we owe to the genius of Hippocrates. Medicine is founded upon the same basis as dietetics, the subjects of observation are of the same nature, and the manner of proceeding to draw practical inferences is precisely the same in both cases. Whoever acknowledges the character of certainty in one of these instances, cannot place the other among hypothetical conjecture. Medicine, indeed, must have preceded dietetics, for the knowledge of regimen has been acquired by attending to the effects of food in diseases. It is not deemed necessary for dietetics to know the causes of digestion, in order to observe the facts belonging to that function; nor is it essential for medicine to understand the causes of animal life, in order to mark the deviations to which they are liable, or to know the means of restoring the deranged actions to their natural state. The phenomena of health and disease, the effects of aliments and of remedies, all come under the cognizance of our senses, and we draw rules from them which are necessary for the practice of the art. The first objection, therefore, is not well founded; as the want of knowing causes is not peculiar to medical science, if the reproach of uncertainty and conjecture can be applied to it with any truth; the principles of almost all the other sciences are exposed to the same charge.

Second objection.—In answering the first objection, the author conceives he has indirectly replied to the second, which only brings forward the same thing in other words. We are acquainted with the nature and causes of diseases, he says, such as facts manifest them to us. We know that fever produces certain changes, or rather, by these changes it shows itself to us; we can only determine its existence by them. When a man coughs, spits blood, breathes with difficulty, feels a pain in his side, has a quick and hard pulse, and his skin is hotter than natural, we say that he is attacked with a pleurisy. What is a pleurisy? You will be told, it is a disorder in which all or most of these circumstances are combined. If one or more of these be wanting, it is not a pleurisy, at least not the true pleurisy of the schools; therefore, it is the concurrence of these circumstances which constitute the disease. The word *pleurisy* only retraces them in an abridged form; the word is nothing of itself; it expresses an abstract idea, and excites by one single character all the images of a large picture. When, therefore, you are not satisfied with knowing a disease by what it displays to our senses, by what alone constitutes its essence, but inquire what is its real nature, what is its essence? it is like asking what is the nature and essence of a word, of a simple abstraction. There is very little justice, then, in saying with an air of triumph, that physicians are ignorant of the nature of fever, and constantly act in circumstances, and employ agents, whose essential properties are unknown. With regard to the causes which render the body, in any given case, susceptible of a certain change in the functions of life, they are confessedly unknown, since they are the same as those by whose influence we live. But those causes which are connected with the disease, and make part of its history, are facts within the power of observation; they may be seen and laid hold of; they may be known by faithful relation; and as they always occasion certain phenomena in the animal economy, we accustom ourselves to recognize them, and to draw practical inferences from them.

Third objection.—Every physician, who has reflected on the real difficulties of his art, will be forced to acknowledge that the third objection is better founded than the two former. M. Cabanis is fully sensible of this, and states, very fairly, what the difficulties are, and what appears the most probable way of obviating them. He acknowledges that we are obliged continually to admit exceptions to the rules adopted for our guide. Nothing is fixed in the application of them, nothing invariable in the plans of treatment which they are to furnish; so that, excepting some general principles which are, in consequence of their general nature, but little adapted to assist in the detail of each particular case, it seems as if the theoretical knowledge of a physician is reduced to nothing at the bedside of the sick, and his practical skill appears to reside entirely in a sort of instinct improved by habit. In fact, it is by identifying one's self (if we may say so) with the being who suffers, by a vivid conception, associating his sufferings with ourselves, that a physician discovers the disease at a single glance, and lays hold of all its characters at once: He thus partakes of all the impressions in a certain degree, and this instinctive feeling makes him foresee the utility of certain remedies, whose effects are already known. This mode of proceeding does not appear very sure, yet it is not impossible to make it more certain than it now is. For the same observation which has led us to know the modifications of diseases, may enable us to reduce the series of facts into systematic order, and to finish what it has so usefully begun. The ease and simplicity of this natural mode of proceeding is no less remarkable than advantageous; some traces of it may be found in the writings of all good practitioners, and by this alone they are entitled to their honourable distinction. In morbid actions, the principal phenomena are not numerous; most of them result from the combination, and the different degrees of intensity of a few. The order in which they occur, their relative importance in the animal economy, are sufficient to give rise to all the varieties of diseases, in the same manner as we learn how it is possible to produce, by means of a few signs, the finest compositions of musical genius, or make the wonders of speech intelligible. Daily experience, added to reflection upon the practical writers of every age, teaches the important lesson of attending to every particular symptom.

Fourth objection.—The fourth objection is passed over very quickly, because the author does not think it deserves a long discussion. There appears no necessity or advantage in knowing the peculiar properties of cinchona, in order to observe its specific virtues in intermittent fevers; nor to inquire into the nature of antimony and mercury, with a view of convincing ourselves that the one, in certain combinations, will excite vomiting, and the other cure syphilitic disorders. Observation and experience teach thus much, and more minute acquaintance with these remedies would scarcely render the facts belonging to their history more certain, or connect them better together.

M. Cabanis admits the difficulties of the art alleged in the fifth objection to be real; but he considers them as not insurmountable. If any operation of the mind requires all the distinguished characteristics of genius, it undoubtedly is that of determining, from the symptoms of a disease, the just indications of cure, observing the effects of remedies, and establishing rules for future emergencies. Supposing medicine not to be capable of having rules made, it would be unlike other arts, there would be neither good nor bad practitioners, they would be all alike, equally good or bad, and no difference could be found between different professors. Agriculture is an art, whose rules are founded in nature, and daily observation tends to enlarge and perfect them. The best farmer determines on the faith of his own experience, after having prepared his field, to commit the seed to the ground. He employs all the precautions suggested by multiplied observations, and probability promises him a plentiful harvest. Taking an average of years, his crops will certainly be better than those of a careless and ignorant neighbour; but all the fruits of his labour and caution may be destroyed by the frost or the hail, or other disastrous events. The case of the physician is precisely similar;

he knows the disease; he seizes the proper occasion for administering the remedy; but, from that moment, the cure may be looked upon as entrusted to the mercy of fate; that is to say, to depend upon a number of circumstances, whose ultimate effects set all accurate calculation at defiance. Although it is possible an emetic may not excite vomiting, or a purge not affect the bowels, when administered in a case where these remedies are indicated, in the proper dose, and with the necessary precautions, yet we are no less persuaded beforehand of their operation; not that we can have mathematical certainty, but we have all moral certainty for it, and with this we are obliged to be content in the common affairs of life.

Sixth objection.—This is more within the comprehension of everybody; it makes a great impression in general, and it is easy to see how this comes to pass. Medical writers are divided in their principles; practitioners are divided in their plans of treatment. Systems rise up and fall in quick succession, and the methods of cure undergo the like variation. If there is such diversity of opinion, that where Hippocrates says yes, Galen almost always says no, it is reasonable to conclude, that their rules of judging must be vague and vain. But a profound acquaintance with the antient writings, an attentive examination of different modes of practice, and an accurate survey of the operations of nature, will enable us to obviate these objections, and to reconcile the apparent contradictions. With regard to the theoretical opinions, founded not upon the facts themselves, but upon the manner in which they are produced, it signifies very little how they disagree, provided that the practice is regulated by facts, and never forsakes the indications furnished by them. The mathematical, the humoral, the chemical, and the spasmodic physicians, all agreed in their practical inferences, and only employed their doctrine to connect their ideas together. From the time of Hippocrates to the present day, intelligent observers have seen what he so ably pointed out; the practice has not changed so completely as has been alleged, and the same means have always been employed to bring about the same effects in every age, subject, indeed, to such modifications as the changing circumstances must suggest to enlightened observers.

To the six foregoing objections a seventh is added, which questions the utility of medicine altogether, supposing all the difficulties overcome which have already been stated, because the exercise of the healing art would require so much sagacity, and so many qualifications, that few men could be found equal to the task of undertaking it; and, therefore, it should be looked upon as a dangerous weapon, placed in the hands of ignorance and quackery. Our author strongly insists upon the natural tendency of those who suffer pain, to seek for assistance; and, therefore, if medicine was to be set aside, you would not get rid of the instinctive feeling among mankind, a greater number of victims would be exposed to ignorant audacity. This disposition is valuable in itself, and only wants to be properly directed. The two ways of effecting this desirable object are, first, by learned men endeavouring to improve their profession by assiduous attention; and, secondly, by the police guarding the people from running into palpable errors. For if there is no alternative, but to entrust the lives of men either to persons educated at Universities, or to leave them to the mercy of mountebanks and old women, it surely must be preferable to adopt the former, and, on every account, nothing can be more cruel and unjust, than to espouse the cause of those detestable competitors.

We shall not follow M. Cabanis through any more of his reasonings; although he has pointed out some sources of error in the vulgar declamations against medicine, yet he has not carried his inquiry deep enough, to detect all the grounds of fallacy in the common mode of reasoning upon medical subjects. His essay is good, as far as it goes, but it might have been better, if he had proved the origin of the evil, by showing how bad reasoning has been misapplied on questions of physiology and physic, and many of his pages would have been better so filled, than with eulogies upon the art itself, and upon men who have displayed both courage and virtue in exercising it in times of difficulty and danger.

The other contents of this volume consists of a republication of several essays upon the following subjects:—1. *Observations upon Hospitals.* 2. *A Journal of the Last Illness of Mirabeau.* 3. *Remarks on the Punishment of the Guillotine.* 4. *Report on the Arrangement of Medical Schools.* 5. *Some Remarks upon Public Charities*—The author prefers small hospitals to large ones, and points out many judicious circumstances applicable to France for their management and reform. Some curious particulars are related of Mirabeau in his last moments, strongly characteristic of that extraordinary man. On opening the body after death, the stomach, duodenum, a considerable portion of the liver, the right kidney, the diaphragm, and the pericardium, showed marks of inflammation, or rather, according to M. Cabanis's opinion, congestion of blood: He attributes his death to an affection of the diaphragm, produced by some rheumatic or gouty *humour*. He considered this at first as the cause of his disease; and he candidly affirms he was satisfied with the plan of treatment, after retracing all the symptoms. In the note upon the punishment by the guillotine, he completely refutes the fanciful hypothesis of Soemmering and Sue, and objects to this mode of inflicting capital punishment upon more substantial reasons. The three remaining essays are principally applicable to the public institutions at Paris.

II.

Cours Theorique et Pratique de Clinique Externe, par Ph.-J. Desault, Chirurgien en Chef de l'Hôtel-dieu de Paris ; ou Extrait de ses Leçons, redigées et publiées. Par J. J. J. Cassius, Docteur en Médecine, Professeur de Physique, de Chimie, d'Histoire Naturelle, et Directeur de l'Ecole Centrale de la Creuse, &c. &c. Tomes II. 8vo. Pages 964. A Paris, chez de la Place.

These volumes will not detain us long. They have, unluckily for us, come in our way, and we notice them, only to put others on their guard. For, though impressed with the respected name of Desault, we doubt much the validity of the passport. M. Cassius, indeed, who thinks much better of his performance than we do, tells us plainly enough, that it is entirely his own manufacture, although the foundation belongs to Desault. In other words, finding himself at leisure, he sits down in the year 1803, and from notes and recollections, compiles two motely volumes of medicine and surgery ; and, because he had been a pupil of Desault, graces them with his master's much honoured name, and presents them to the world as the peculiar doctrines and practice of that eminent surgeon.

The surgical works of Desault are already sufficiently well known, and their merits very generally acknowledged. But we can discover few traces of Desault in the volumes now before us. They contain more of medicine than of surgery ; and the doctrines and practice, so far from being new or peculiar, might fairly be claimed by every French physician of the last half century, unless we except a few such specimens as the following. Emphysema : « To dissipate an emphysema, it is quite sufficient to evacuate the air. Heat alone, penetrating and aromatic baths, *oxycrat**, easily accomplish this object. In the case of wounds, the

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* Vinegar and water, " un melange de deux ou trois onces de vinaigre et d'un livre d'eau." Lieutaud, Precis de la Matiere Medicale.

the oxycrat is preferable to all other means; *it penetrates, and gives to the body the faculty of exhaling the air which forms the emphysema.*"

This is, to be sure, somewhat original, but we are rather disposed to give the honour of such excellent doctrine and practice to the Professor of Natural Philosophy, Chemistry, and Natural History, and Rector of the central school of the department de la Creuse, than to the Chief Surgeon of the Hotel Dieu of Paris.

In general, the medical doctrines and practice of M. Cassius are such as we find in most French books; many prejudices, antiquated opinions, and long lists " des boissons refraichissans, ameres, incrassans," &c.

The French physicians observe well, and describe accurately; but, in reasoning from the phenomena they have observed, they seem afraid of venturing one step from their predecessors, and their practice, generally inert, is fettered by a thousand prejudices, which their acquirements in other departments of natural knowledge have not enabled them to overcome. For example,

To cure the itch, they must begin with a course of ptisans, " des boissons ameres," as M. Cassius has it, to prepare other outlets for the psoric humour, lest it be driven back on some vital organ, and produce fevers, consumption, and apoplexy.

In *rheumatism*, we must give ptisans of taraxacum and liquorice, of violets, mallows, and marsh-mallows, and of verbascum, which are all very proper *to calm the effervescence of the humours, and to dilute their acrimony*. P. 86.

Æthiops mineral may likewise be very usefully employed to carry off the acrid humours by the skin, after having divided them. P. 37.

Diuretics, asparagus, taraxacum, celedonium, rubia tinctorum, ruscus, petroselinum, scolopendrum, cerefolium, borrago, squills, and onions, are very advantageous in the hydropsy. P. 120.

In *asthma* there are two indications, 1st, to soften the acrimony of the humours, in order to render them fit to be expectorated; and, 2d, to excite expectoration. P. 317.

These are a few specimens of the precious relics which M. Cassius has been so anxious to preserve. From almost every page we might cull others. But that we may do him all manner of justice, we shall give one more sample in his own words, the complete treatment of phthisis, of which disease he pretends to a knowledge of twelve species, a number greater than Morton himself has described:

> " Le traitement de cette maladie doit être conforme aux diverses causes qui la produisent. La Phthisie est-elle pléthorique? alors, les saignées, les bouillons de poulet, les bouillons de veau, les feu-

illes de lierre, de tussilage, le petit-lait, le suc de chicorée, le lait d'ânesse, au printemps ou à l'automne, édulcoré avec du sucre, à la dose de huit onces, le lait de chèvre, celui de vache dans toutes les saison, le riz, le sagou, un air pur, la précaution d'éviter le vent, un exercice modéré, le sirop de pavot blanc, les infusions de fleurs de véronique, les adoucissans, les purgations douces réussissent fort bien. La phthisie est-elle accidentelle? on peut employer le sel ammoniac, le benjoin, le safran, le baume du Pérou, le baume de soufre, le chiendent, la réglisse, des aposêmes pectorales faites avec la pimprenelle, le pissenlit, la mille-feuilles, les fleurs de violette, de coquelicot, de camomille, les jujubes, les dattes, etc. La phthisie est-elle scrophuleuse? les martiaux réussissent souvent; on voit les malades reprendre une bonne couleur et arriver à une guérison certaine. La phthisie est-elle scorbutique? ce qu'on peut employer de mieux, sont les aposêmes anti-scorbutiques, le cresson, l'hyssope, l'érésymum, les bouillons incrassans. Celle qui vient de l'asthme exige des incisifs, des béchiques, comme le miel, l'hydromel, l'oximel scillitique, le marrube blanc, le raisin sec, la thérébentine dans un jaune d'œuf, le sirop de tussilage, etc. La phthisie vénérienne se guérit, suivant *Morton*, avec les décoctions sudorifiques et lest pilules d'œthiops minéral ou oxide de mercure noir. La phthisie chloritique demande l'usage des martiaux, des ameres, des bouillons apéritifs, et autres remèdes propres à rappeler les règles. La phthisie reconnoit-elle pour cause la goutte, le rhumatisme? elle peut trouver beaucoup de soulagement dans les sudorifiques et les adoucissans, la manne, les feuilles de mauve, de guimauve, de violette, les infusions théiformes. La phthisie qui survient à la suite des couches, des laits répandus, se guérit par les antilaiteux, les sels légèrement amers, le sel de Glauber, ou *sulfate de soude*, etc. qui portent l'humeur laiteuse à la peau; ces sels doivent être dissous dans beaucoup d'eau, et ne doivent jamais être employés qu'en très-petite quantité. C'est alors le cas de purger avec la manne, la fleur de mauve ou de pécher, les tisanes purgatives, etc.

"La phthisi est une véritable combustion, qui demande dans son traitement beaucoup de prudence de la part du médecin." P. 331-3.

The surgical information to be collected from this production of M. Cassius, is hardly more important or instructive than the medical. It has generally still less claim to novelty and improvement, and possesses little of the character of Desault's writings. The observations of M. Cassius are indeed, for the most part, mere common-place; and, not unfrequently, they are at variance with the acknowledged lessons of Desault.

A few examples will enable our readers to judge for themselves.

After describing the radical cure of hydrocele by injection, he seems unable to comprehend how it has been accomplished. Is it, he asks, by the adhesion of the vaginal coat to the testicle?

He can hardly believe it. Perhaps the cure is effected by the condensation of the texture of the vaginal tunic. P. 446.

Engorgement Lymphatique.—" This is a colourless tumour which principally attacks the knee-joint, accompanied with pain and fluctuation. It is commonly known by the name of *white swelling*. It is a true *dropsy of the joints*." P. 89.

" The internal causes of sarcocele are coagulation of the nutritive lymph, or of the semen, occasioned most commonly by the venereal, herpetic, psoric, or scrofulous virus." Page 54, Vol. II.

" We may lay it down as a general principle, that ruptures return to their place of themselves ; and that even of strangulated herniæ, eight out of ten, if no endeavours have been made to reduce them, will reduce themselves spontaneously. Moreover, experience has a thousand times demonstrated, that strangulated ruptures, even after having resisted all attempts to reduce them, have spontaneously reduced themselves, after the patients had been abandoned." P. 121.

Every endeavour, therefore, to reduce a hernia by the taxis is proscribed by M. Cassius. Purgatives and injections are equally condemned ; and he is particularly averse to Epsom salt, and exclaims against the tobacco clyster. " What remedy, then, would you employ, it may be asked ?" exclaims our author. " What ! you reject altogether the taxis, purgatives, Epsom salt, and injections ! Yes, the simplest of all remedies is the best." This remedy is the warm bath ; its operation may be assisted by small bleedings, and by a sparing use of fluids.

Sometimes, indeed, a long interval elapses before our efforts are crowned with success. The patients become impatient, and the bystanders insist on other means, or urge the surgeon to the operation ; but he must not allow himself to be disturbed. If the strangulation is not increasing, the cure is almost certain. However, there is no objection to emollient and softening poultices, they diminish the phlogosis, and facilitate the return of the strangulated gut. P. 126.

The utility of the warm bath will not be disputed ; but to abandon every other means of assisting the reduction of the rupture is carrying our confidence rather too far ; and such persevering expectation as that here recommended, not unfrequently would endanger the life of the patient, which even the operation would come too late to save. Were any proof of this wanting, the case immediately quoted by M. Cassius would satisfy us. In turning over the Traite des Maladies Chirurgical, par Chopart et Desault, we find rules very different from those of M. Cassius laid down for the guidance of the surgeon.

"Après avoir réitéré sans succès les tentatives de reduction, et les saignées du bras à peu de distance, suivant la violence des accidens et les forces du malade, si les symptômes augmentent malgré ces moyens administrés avec celerité, on se determinera d'autant plus promptement à l'operation, que le sujet est vigoureux, et *qu'on a vu les parties eztranglées être livides et gangrénés vingt quatre ou trente-six heures après la naissance des symptômes, et que l'operation réussit communément quand elle est faite à tems.*"

Then, with regard to the taxis, Desault himself tells us—"Le chirurgien tentera la reduction en maniant le tumeur d'abord doncement, puis avec plus de force, surtout si elle est crurale, en tous sens, et meme en la tirant à soi pour allonger l'anse de l'intestin, procurer plus d'espace aux matieres et les disposer à suivre la route du canal intestinal."—If he does not succeed, he must bleed once or twice, apply cold vinegar and water, or even cover the tumour with ice, or dash cold water on the belly. Then he advises injections, and particularly the tobacco glyster, purgatives, and particularly Epsom salt, which "en agaçant les intestins, procure une excretion d'humeurs capables de détremper et d'entrainer celles qui sont accumulées dans la hernie, et excité dans la portion sortie, et dans tout le canal des ébranlemens efficaces pour la tirer de la géne."

Speaking of wounds of the head, M. Cassius tells us—"Si la plaie est en lambeaux, et qu'une portion du crane soit detachée, *il faut l'enlever entierement sans penser à la reunion.*" P. 171.

Desault and Chopart say, "Lorsqu' une portion d'os a ete entierement separée, et tient encoré aux parties molles, il faut après avoir lavé la plaie avec du vin chaud, *replacer* cette portion d'os, et reunir les parties molles qui la recouvrent."

We now gladly take leave of M. Cassius. For the ennui which the reader may suffer in turning over the pages of the Cours de Clinique Externe, he will find some recompense in a paper by Professor Sue, annexed to the last volume, and entitled, Observations and Reflections on some Diseases of the Bones. Amongst others, there is an excellent memoir on the luxation of the arm, in which the mechanism of the luxation of the shoulder-joint is particularly and fully explained, by a minute examination of its anatomical structure, and of the action of the muscles connected with it. From the whole investigation it appears, that the head of the humerus, when dislocated, almost invariably escapes from the glenoid cavity, between the insertion of the subscapularis and of the teres minor.

"Considering the position of the muscles on the side of the axilla, and that of all the others relatively to the capsule, it appears that it is exposed only (and that to a very small extent) on the inferior edge of the subscapularis, in the place near the vessels and axillary glands.

It is here the head of the bone must experience least resistance. But does it always escape in this direction when it is luxated? What has been said on the obstacles opposed by the muscles of the articulation will explain this question, and, at the same time, establish the mechanism of this luxation. It is evident that the humerus cannot be luxated when the arm is close by the breast. Thus, if the arm rests against the body in a perpendicular direction, a force equal to the dislocation of the bone, and acting on the elbow, will drive the head of the humerus upon the arch formed by the omoplate. This arch, as well as the long head of the biceps, a part of the subscapularis, and supra spinatus, will prevent the dislocation of the bone upwards. The same force acting on the elbow, or middle of the arm, and carrying it forwards against the breast, would experience such a resistance from the spinati, the teres minor, and from the acromion, as would oppose its dislocation backwards and upwards. Struck in the opposite direction, by a force determining the head of the bone towards the coracoide process, it would in like manner be opposed by the subscapularis, the biceps, and coraco-brachialis. Should the blow fall directly upon the articulation of the shoulder, it will rather fracture the humerus, and processes of the scapula, than dislocate the bone downwards. Lastly, should the force be applied to the scapula only, the arm resting against the body, there would be no dislocation. For however high the shoulder may be raised, it carries the arm with it, and whatever effort the levators of the scapula may make to separate the glenoid cavity from the head of the humerus, there is no luxation; all the muscles which surround the articulation oppose this."

Reasoning in this way, and guided all along by experience also, the writer goes on to examine the results of the arm being placed in various other positions, and from the whole concludes, that luxation can only take place when the arm is elevated so as to form with the body a right angle, or one more obtuse. Nothing short of a particular conformation of the parts, he thinks, can establish a case of possible luxation, when the arm forms less than a right angle with the body. It may happen, in this position of the arm, when the head of the humerus is very small and flat, or when the glenoid cavity is superficial, and less raised than it naturally is at its inferior border. "It follows, also, from all that has been said, that the dislocation is always downwards, in the interval left between the subscapularis and teres minor, the only place in which the capsule is not fortified by muscles, as it is anteriorly and internally by the subscapularis, above by the supra-spinatus, and behind, or externally, by the infra-spinatus and teres minor, which muscles do not admit of sufficient separation for the passage of the head of the humerus."

The fracture of the apophyses of the scapula, the rupture of muscles, and of tendons, form, it is true, exceptions to this rule.

The capsular ligament is, in every case of luxations effected by external force, ruptured according to the experiments and observations of our author.

After the head of the humerus has been forced in the way pointed out, from the glenoid cavity and capsule, and the dislocation effected, it may take three different positions, according to the quantity and direction of the force applied; downwards and forwards in the axilla; upwards and forwards under the clavicle; and in some rare cases, downwards and backwards between the scapula and ribs.

In reducing the dislocation of the humerus, he recommends the extension to be made upwards, and a little forwards, in the direction of a line passing between the tendons of the subscapularis and teres minor. The arm, therefore, must be elevated and sustained by the surgeon, who pulls upwards, while an assistant supports the inferior angle of the scapula with one hand, and with the other depresses the acromion. The surgeon also having made the necessary extension, may assist the reduction, by pressing the fingers of the other hand on the humerus in the armpit, while he suddenly depresses the arm. Where a greater force is necessary, the rope and pully may be used, after the manner of Mr White.

III.

Observations on the Preparation, Utility, and Administration, of the Digitalis Purpurea, or Foxglove, in Dropsy of the Chest, Consumption, Hemorrhage, Scarlet-Fever, Measles, &c.; including a Sketch of the Medical History of this Plant, and an Account of the Opinions of those Authors who have written upon it, during the last thirty years. By William Hamilton, M. D. Physician, Bury, St Edmunds, Suffolk. *Illustrated by Cases.* London, 1807. 8vo. pages 214.

Digitalis is a medicine now in very general use. There still, however, exists some difference of opinion amongst medical practitioners, not only with respect to the general action of this drug on the system, but with regard also to its administration in particular diseases. Much information has certainly been accumlated, since the publications of Dr Withering and of Dr Ferriar, the only monographers on the virtues of the digitalis. A variety of cursory observations, now scattered in the writings of physicians, and in the medical journals, deserved to be brought together. The task has been undertaken by Dr Hamilton. He has himself had considerable experience of this remedy; and, without indulging in fanciful speculations, he has brought tother, in a plain and instructive form, all that can be collected from published documents relative to the effects of digitalis, and its administration in diseases. His object has been, "to collect under one distinct view, and attempt to reconcile the contrariety of opinion that at present prevails, respecting the use of this medicine; to ascertain, as far as experience will permit, the diseases in which it may really be expected to produce beneficial effects; and to give such an account of its preparation, and mode of exhibition, as may render it as invariably to be depended upon as the nature of the disease to which it is adapted, and the ever-varying state of the human body will admit."

In the first place we are, with great propriety, presented with a sketch of the medical history of digitalis, in which the observations and opinions of Dr Withering, Dr Darwin, Dr Ferriar, Dr Currie, Dr Beddoes, Dr Drake, Dr Fowler, Dr M'Lean, Dr Mossman, Dr Kinglake, Dr Reid, and others, are successively brought under review. In distinct sections, our author then proceeds to the consideration " of the cultivation and preparation of digitalis;—of the exhibition of digitalis, with practical observations and precautions;—of the utility of digitalis in hydrothorax, and other effusions of water within the cavities of the chest;—of the utility of digitalis in phthisis pulmonalis;—in hemorrhage;—in scarlatina;—and in measles. An appendix exhibits the histories of several cases of hydrothorax from his own practice, and from that of his friend Dr M'Lean of Sudbury.

The choice and preparation of this plant are circumstances of great importance, and there is reason to believe, too much overlooked, from which arises some share of the uncertainty complained of in its operation. The largest and deepest coloured leaves should be selected and gathered when the flower-stems have shot up. They should be carefully dried, reduced to powder, and kept in coloured bottles, unexposed to the light. The powder ought to be of a fine green colour, "and a fragrant smell, not unlike that of new made hay, but stronger." Our author does not think the cultivated plant inferior to the wild, but it is proper to reject the white-flowered variety, the leaves of which are of a paler green.

The forms in which the digitalis is employed are those of infusion, tincture, and powder. The infusion seems the best when the full diuretic powers of the plant are required. But in most other cases, where the chief object is to reduce the velocity of the pulse, the saturated tincture is preferred, the dose of which can be proportioned, and gradually and accurately increased. The powder has rarely been used by Dr Hamilton; although a form which we have often found the best and most convenient; a form in which it can be so easily combined into pills with calomel, or mixed with the supertartrite of potash, adjuvants which eminently conspire with it as diuretics in dropsical cases. Indeed, these combinations we have frequently known to succeed where the ingredients, given separately, have, in succession, failed. It is allowed, indeed, by our author, that much advantage may be occasionally derived from the powder. "In chronic coughs, dyspnœa, &c. &c. accompanied by considerable expectoration of mucus, and a tendency to effusion into the cells of the lungs, pills formed with the powder will be taken, when the patients cannot be prevailed upon to confine themselves; and notwithstanding that, under such circumstances, a full dose of the medicine must not be risked, it may, nevertheless, in this form, and especially in combination with other means of relief, be productive of considerable benefit."

The general effects of digitalis upon the system, in so far as we are yet acquainted with them, are referable to its extraordinary power of affecting the vascular and absorbent systems, in seemingly very different manners; of reducing the action of the heart and arteries, and of increasing the activity of the absorbents; and in the different diseases in which it is administered, one or both of these are the indications kept in view by the practitioner. Our author very properly avoids the foolish and interminable question, whether the digitalis acts as a stimulant or sedative? He contents himself with the practical fact, that, in certain states of the system, it seems to depress and restrain the action of one set of vessels, while it increases the exertions of another.

It is, however, a circumstance of curious and interesting moment, not, perhaps, very generally known, that a relaxed, weakened, and depressed state of the system, is the most favourable for displaying the full effects of digitalis. Dr Withering had early pointed out the fact, that in persons of tense fibre, and of great natural strength, labouring under ascites or anasarca, the digitalis seldom succeeded; and that, on the contrary, where the pulse was found feeble or intermitting, the anasarcous limbs, and body soft and yielding, the countenance pale, and the skin cold, the diuretic powers of the plant were conspicuous. The observation,

vation, in so far as it regards ascites and anasarca, is confirmed by our author, as we believe it is by general experience. In hydrothorax, however, he asserts that the digitalis succeeded in the opposite state of the system. "Of my patients, several were men of very rigid fibre, and great natural bodily strength; yet the foxglove produced effects upon these equal to what could be expected from it in more enervated habits."

He founds an explanation of this unvaried success in hydrothorax, on the difficult transmission of blood through the lungs, and its partial exposure to the influence of the air in that disease, whence, he supposes, may arise a relaxation favourable to the diuretic operation of the digitalis. This, however, is a sort of circular reasoning: If the system is relaxed and reduced in every case of hydrothorax, the observation of Withering is confirmed and generalized. It signifies nothing how the relaxation is brought about. And we believe, generally, that whatever the *natural* bodily strength may have been, that most individuals labouring under hydrothrax, are reduced low enough: We say generally, because, great as our faith is in digitalis, and wonderful as the cures are which we have witnessed, we cannot assert with our author, that "we have never seen one case, however advanced or desperate, that was not speedily relieved by it." And the few cases of hydrothorax in which we have unsuccessfully employed the foxglove, have been precisely such as quadrate with the observation, that a state of the system bordering on what has been called phlogistic diathesis, is unfavourable to the operation of this medicine. They have been recent cases, in persons not much advanced in life, in whom the complaint had come on precipitately. In the three cases to which we allude, the limbs were also anasarcous, but hard and resisting, in one case even painful.

The observation respecting the difficulty of affecting dropsical patients of considerable irritability and tenseness of fibre by the digitalis, we believe to be applicable to every other case in which it is administered, and therefore, to the other general indication for which we employ it, the reduction of the velocity of the circulation.

A certain degree of relaxation and weakness is most favourable for the accomplishment of this indication by the digitalis. "Our attentive consideration," says Dr H. "of the causes which seemed to prevent the operation of foxglove, by which I have so often been foiled, has convinced me that they are to be found in the presence of inflammation, or of a tendency to inflammatory action of the vascular system." Hence it is that in pneumonia, the action of digitalis cannot be depended on till the tone of the system has been much reduced by previous blood-letting; and the same difficulty obtains in phthisis in proportion to the inflammatory disposition of the vessels. "When the pulse is hard and bounding, the countenance flushed, the heat and thirst considerable, and the difficulty of breathing, accompanied with pain of the chest, urgent, little advantage will be derived from the use of this remedy, until these symptoms shall have been removed; nor indeed can the pulse be readily or at all reduced in frequency when they are present, unless the digitalis be given in such ample doses as to produce unpleasant effects." In such circumstances, it is necessary, by an antiphlogistic regimen, first to reduce the tone of the system; and when the propensity to inflammation shall have been suspended, the use of the foxglove may be commenced.

IV.

Observations on the Application of Lunar Caustic to Strictures in the Urethra and Œsophagus. By R. W. ANDREWS, M. D. Member of the Royal College of Surgeons, London; late Army Surgeon, and now Physician at Madeira. London, 1807. 8vo. Pp. 173.

THIS is a book of cases rather than one of observations, and after what has been already delivered to the public by Mr Home, must be regarded unnecessary, as it is uninteresting and uninstructive. We learn from it indeed, that Dr Andrews has destroyed a great many strictures with the lunar caustic; that he is bold and free in the application of this potential remedy, and that he has a very high opinion of its efficacy. What more can be collected from a constant repetition in the same unvaried style,—that a gentleman applied to him—that five applications of the lunar caustic removed a stricture at four inches—eight or ten, another stricture at five inches—and sixteen or eighteen applications a third at seven inches, after which the catheter passed on to the bladder?

We have already delivered our opinion of this practice in reviewing the books of Mr Home and of Mr Whatley; we deem it therefore unnecessary to enter deeply into the contest with Dr Andrews. We have admitted the advantages of the caustic bougie,

gie, in the cases to which it is more particularly applicable; and we still regard its introduction as a valuable acquisition to surgery. But, as we know that the greater number of cases may be, as they have long been, successfully treated by the simple bougie, and as we believe the unarmed bougie to be much safer in general hands than the caustic, we see no reason for abandoning it altogether, or for destroying every stricture indiscriminately by caustic. We cannot, therefore, approve the example given by Dr Andrews, of applying the caustic in every case, and to every point of the urethra where the largest sounding bougie is arrested.

There are, however, two most unqualified assertions by which Dr Andrews vindicates his practice, which we cannot pass unnoticed. The effects of the simple bougie, he tells us, are temporary and palliative, while the cure by caustic is permanent. Now, neither of these positions is generally true. Before and since the caustic came into use, strictures have been often completely cured by the simple bougie. In many cases, indeed, the strictures have returned after the bougie had been discontinued. In many cases, too, they have returned after the treatment of caustic; even Mr Home's patients have had relapses, after having been flattered by the hope of a permanent cure. Indeed Mr Home, and even Dr Andrews are so well aware of the possibility, nay, of the probability of a return of the strictures, that we find them recommending to those patients whom they have treated, to pass occasionally a bougie, a *simple* bougie, into the urethra.—And for what other purpose than to secure them against a return of the strictures? Thus proving that their cures are not always permanent, and that they confide to the simple bougie the future safety of their patients.

In a great proportion of cases, in which the simple bougie can be passed within the stricture, a cure may be effected by gradual dilatation; and we cannot doubt, that after the cure has been thus effected, the risk of relapse might be diminished by the occasional introduction of the bougie, just as relapses are guarded against after a cure by caustic.

We state this argument, however, in opposition only to the bold and unqualified assertions of Dr Andrews; for we believe that relapses are really less frequent after the cure by the caustic than by the simple bougie. We do not argue against the efficacy, or against the guarded use of the armed bougie; we know that it has succeeded where the simple bougie has failed, and in cases where, from the nature of the strictures, the treatment by dilatation is inapplicable. For such cases, we would reserve the caustic, without banishing the simple bougie from the practice of surgery. V.

V.

An Introduction to Physiological and Systematical Botany. By JAMES EDWARD SMITH, M. D. F. R. S. President of the Linnæan Society, &c. &c. London. 8vo. 1807.

THIS is an elementary work, composed upon an easy and comprehensive plan, fit for the use of young persons and general readers. It is not intended to supersede the use of the more learned botanical treatises already published, but to teach the first principles of the science to all classes of readers, and to recommend this interesting study to more general attention. The rudiments of botany, like the rudiments of the Latin tongue, have hitherto had a forbidding aspect, and we are much indebted to those benevolent masters who will condescend to deliver their acquisitions in a simple manner, so as to interest the feelings, and, at the same time, awaken the curiosity of the mind. Whoever has had the good fortune to hear Dr Smith's lectures, may form a pretty good idea of the plan and the merit of this introduction. The same accurate information, the same ingenious and happy illustration, the same freedom from all vain pretension, and the same philosophical spirit and simplicity which characterize his public lectures, are to be found in the volume before us. In a well-written preface, the distinguished author speaks of his subject with laudable enthusiasm : he looks upon botany as a man ought to regard any particular pursuit to which he devotes himself ; and he recommends it not only as a rich source of pleasure, but as an excellent exercise for awakening the mind and for sharpening the powers of judgment and discrimination. Natural history is commonly taught in schools on the continent, especially in Sweden, and men in that country rise to eminent situations by their acquirements in physical sciences. There are no people whose minds are more acute or better regulated than the Swedes, which establishes the utility of cultivating the habit of analysis and minute observation by courses of botanical and chemical studies. Among the obstacles to the improvement of physic, the ignorance of physicians and apothecaries in botany is enumerated as one; although this was formerly more frequently a source of error and uncertainty when simples were more generally employed, yet there is reason to fear the virtues and varieties of plants are not now sufficiently understood. In turning over the writings of the antients, we are astonished at the prescriptions, or rather indexes of remedies, which consist of so great a variety of articles mingled together, that it is probable some plants of specific properties have been discarded, because their history is not accurately ascertained. To those who live in the country, this work will be of great service; it will introduce them to a science that will prove an inexhaustible source of entertainment and instruction, and may be the means of finding out a medicine that may for ever immortalize the name of the discoverer, and of the country which gave him birth. The distinction between animals and vegetables, and the anatomy and physiology of plants are treated of in the first chapters, because a true knowledge of the structure and parts seems necessary to the right understanding of botanical arrangement. The explanation of the Linnæan system is full and intelligent, the illustrations and examples are familiar, and mostly refer to plants easy of acquisition, or to plates which are readily procured. Fifteen tables of plates, neatly drawn and engraved, with an explanation and an index, terminate this miscellaneous volume. We shall give the following extract from the chapter on the diseases of plants, as a specimen of the author's manner, and also to recommend the analogy between vegetable and animal separation of parts, for farther comparative experiments.

" Plants are subject to gangrene or *sphacelus*, especially the more succulent kinds, of which a very curious account, concerning the *cactus coccinellifer*, Indian fig, or nopal, extremely to our present purpose, is given by M. Thiery de Menonville, in his work on the culture of the nopal as the food of the cochineal insect. This writer travelled, about 20 years since, through the Spanish settlements in South America, chiefly noted for the cultivation of this precious insect, on purpose to transport it clandestinely to some of the French islands. Such were the supineness and ignorance of the Spaniards, that he succeeded in conveying, not only the living insects, but the bulky plant necessary for their sustenance, notwithstanding severe edicts to the contrary. He had attended previously to the management of the nopal, and made his remarks on the diseases to which it is liable. Of these the gangrene is extremely frequent in the true nopal of Mexico, beginning by a black spot, which spreads till the whole leaf or branch rots off, or the shrub dies. But the same kind of plant is often affected with a much more serious disease, called by Thiery " *la dissolution.*" This seems to be a sudden decay of the vital principle, like that produced in animals by lightning or strong electricity. In an hour's time, from some unknown cause, a joint, a whole branch, or sometimes an entire plant of the nopal, changes from apparent health to a state of putrefaction or dissolution. One minute its surface is verdant and shining; the next it turns yellow, and all its brilliancy is gone. On cutting into its substance, the inside

side is found to have lost all cohesion, being quite rotten. The only remedy in this case is speedy amputation below the diseased part. Sometimes the force of the vital principle makes a stand, as it were, against the encroaching disease, and throws of the infected joint or branch. Such is the account given by Thiery, which evinces a power in vegetables precisely adequate to that of the animal constitution, by which an injured or diseased part is, by an effort of nature, thrown off to preserve the rest.

" Nor need we travel to Mexico to find examples of this. Every deciduous tree or shrub exhibits the very same phenomenon ; for the fall of their decaying foliage in autumn, leaving the branches and young buds vigorous and healthy, can be explained in no other way. Yet Du Hamel laboured in vain to account for the fall of the leaf; nor is it wonderful that he or any body else, who endeavours to explain the physiology of vegetables or of animals according to one principle only, whether it be mechanical or chemical, should entirely fail. To consider the fall of leaves in autumn as a sloughing, or casting off diseased or worn out parts, seems so simple and evident, as to be hardly worth insisting upon. Yet I find myself anticipated in this theory by one physiologist only, named Vrolick, cited by Willdenow, in his *Principles of Botany*, p. 304, though several learned speculations to no purpose are extant on the subject. It is but just, however, that I should relate what led me to consider the matter with any attention. My observing friend Mr Fairbairn of Chelsea Garden long ago remarked to me, that when he had occasion to transplant any tree or shrub whilst in leaf, he could soon judge of its success by the ease with which its leaves were detached. The consequence of such treatment is more or less injury to the health of the plant, as will first appear by the drooping of the leaves, most of which will probably die, and the decay will generally be extended to the younger more delicate twigs. The exact progress of this decay may speedily be known, by the leaves of those branches which are irrecoverably dying or dead, remaining firmly attached, so as not to be pulled off without a force sufficient to bring away the bark or buds along with them : whereas the leaves of parts that have received no material injury, and where the vital energy acts with due power, either fall off spontaneously, or are detached by the slightest touch. Plants of hot countries, kept in our stoves, exhibit the same phenomenon when transplanted or otherwise injured, even though not naturally deciduous.

" So when fruits are thoroughly ripened, they become, with respect to the parent plant, dead substances, and, however strongly attached before, are then thrown off as extraneous bodies. Their stalks fade or wither, though the life of the adjoining branch continues unimpaired, and a line of separation is soon drawn."

A few peculiarities in the forms of expression, and some disputable assertions have occasionally met our eyes, but these are amply compensated by the total absence of silly superfluous matter,

ter, and by the introduction of much valuable information, not usually found in elementary works.

VI.

The Anatomy and Surgical Treatment of Crural and Umbilical Hernia, &c. &c. By ASTLEY COOPER, F.R.S. Honorary Member of the Medical and Physical Societies of Edinburgh, Lecturer on Anatomy and Surgery at Guy's Hospital. Illustrated by Plates. Part II. 90 pages, atlas folio. London, 1807.

IN our Journal for April 1806, we took an opportunity of giving a general view, and short analysis of the first part of Mr Astley Cooper's work on Hernia; and we now have the satisfaction of performing the same duty to the second part, which fulfils his promise, and completes his work on this interesting subject. In this volume Mr Cooper comprehends the anatomy and treatment of the crural hernia, of the umbilical, ventral, pupendal, perineal, thyroideal, cystic, phrenic, mesenteric, and mesocolic herniæ, and of the strangulated intestine.

We formerly remarked the success of Mr Cooper's investigations in the anatomy of the *inguinal ring*, and he seems to us to have been equally diligent, and no less successful in the dissections which he has now given of the *crural ring*. The complicated structure, however, of this part of the body, but, above all, the imperfection in the language of anatomy which is generally adopted, renders it extremely difficult to describe these parts with clearness and precision. Indeed, in no part of anatomy could the necessity of adopting the ingenious and precise language of Dr Barclay be more strongly urged; for, notwithstanding the patient investigation Mr Cooper has bestowed, his description is not altogether perspicuous, and it is with difficulty understood, unless by those who have the parts lying before them, or who are very familiar with dissection. From an aim at too great minuteness, we are convinced that the structure of these parts has been made to appear much more complicated than it really is; and the insatiable desire which several anatomists of the present day have shewn to multiply fasciæ, has at last been carried so far, and indulged to such a degree, that it appears as if no one believed himself entitled to any claim of excellence,

cellence, unless he has added one to the list; just as many young surgeons conceive themselves incapable to perform an operation until they have contrived some new instrument: although it may in general be remarked, that the best practical surgeons invent fewest instruments, and the most experienced anatomists make the fewest discoveries.

In the anatomical part, Mr Cooper first gives a description of the bones, then of the soft parts of the thigh which are adjacent to the cavity of the abdomen, and afterwards of those which shut up the abdomen from the thigh.

He describes one fascia, called the *superficial* fascia, which lies immediately underneath the skin and fat, extends over the tendon of the external oblique muscle, adheres firmly to the crural arch, passes downwards upon the absorbent glands of the groin, and extends down the thigh. Another fascia, called the *fascia lata*, lies underneath the former, and has two origins, one from the rounded edge of the crural arch, along the space between the tuberosity of the pubes and the anterior spinous process of the ileum; the other from the ligament of the pubes at the insertion of the external oblique muscle, extends over the pectineus and triceps muscles, and having united with the first mentioned part, under the saphena major vein, the united portions extend over the thigh, embracing the muscles, and forming an external covering to the femoral vessels as they emerge from the abdomen *.

The abdomen is described to be shut up from the thigh by two fascia, the *fascia transversalis* and the *fascia iliaca*. These, however, ought properly to be considered as only one expansion, which covering the transversalis, the psoi, and iliac muscles, and lying underneath the femoral vessels, passes down in the shape of a funnel through the crural arch, and forms the *crural sheath*. The space called the *crural ring* is also within this sheath, and is situated between the crural vein and the crescent-shaped edge of the insertion of the external oblique muscle into the pubes.

Besides passing down to form the crural sheath, the fascia which lines the muscles of the belly, or that portion called *fascia transversalis*, is also said, by Mr Cooper, to extend over the crural ring. In the dissections we have made, we have never been able to demonstrate such a fascia. The crural ring, in most people, is filled up by an absorbent gland, or by a number of absorbent

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* These two portions of fascia, when united, do not form one plane surface, but give a covering to the hollow space formed by the pectineus and the tendons of the psoi and iliac muscles, as may be seen accurately represented by Mr Cooper in his former volume.

absorbent vessels and fat, so that, in these, no such fascia can exist. Where there are no absorbent vessels or glands, the crural ring is covered by a continuation of the cellular stratum which lies between the peritoneum and the fascia lining the abdomen. If the finger is pressed upon the crural ring, it may be passed from one-half to three-fourths of an inch towards the thigh within the sheath; and there is no aperture in this part of the sheath, except the minute cribriform holes for the passage of the absorbent vessels, or a single hole if they pass in a cluster. When the finger is thrust down through the crural ring, the lunated or semilunar edge of the fascia lata may be distinctly felt.

Crural Hernia.—After accurately describing the symptoms remarked by the patient, Mr Cooper mentions that this hernia is generally found to be a small circumscribed tumour, about the size of the last joint of a finger, situated under the crural arch, about an inch on the outside of the tuberosity of the pubes, and lying in the hollow between this process and the crural artery and vein.

" As the tumour enlarges, instead of falling downwards like the inguinal hernia, it passes forwards, and often turns over the anterior edge of the crural arch, this being the direction in which there is the least resistance. As it proceeds, the swelling increases more laterally than upwards or downwards, so that it assumes an oblong shape, the longest diameter being in a transverse or horizontal direction.

" In the female it is generally very moveable, and being soft, and the skin not being discoloured, it has the appearance merely of an inguinal tumour of one of the absorbent glands; but, in the male, the skin is generally not so loose, the swelling not so distinctly circumscribed, and the tumour appears buried more in the substance of the thigh.

" The direction in which the crural hernia passes is obliquely inwards and forwards, and, excepting at first, very little downwards, so that, in cutting into this tumour, the incision is made into its fundus. This is the general situation of the tumour, but it sometimes happens, that instead of crossing the thigh in the direction of the crural arch, it extends downwards along the edge of the crural vein, and the vena saphena major.

" The crural hernia, when dissected, presents the following appearances: when the skin is removed, the superficial fascia of the external oblique muscle is laid bare, which, though it is of a delicate texture in its common state, when pressed upon by a hernia, becomes extremely thickened, and very distinct, more especially in a subject loaded with fat. Under this covering there is generally another fascia, precisely of the form of the hernia itself, and which it very closely embraces. A thin fascia naturally covers the opening through which the hernia passes, and descends on the posterior part of the pubis. When the hernia therefore, enters the sheath, it pushes this fascia before it, so that the sac may be perfectly drawn from its inner side, and the fascia which covers it left distinct. The fascia which forms the crural sheath, and in which are placed the hole or holes for the absorbent vessels, is also protruded forwards, and is united with the other, so that the two become thus consolidated into one. If a large hernia is examined, this fascia is only found to proceed upwards, as far as the edge of the orifice on the inner side of the crural sheath by which the hernia descends, but, in a small hernia, it passes into the abdomen as far as the peritoneum, and forms a pouch, from which the hernial sac may be withdrawn, leaving this forming a complete bag over the hernia.

"In a small hernia, the fascia is thicker than the sac itself, but, by being gradually extended, it becomes thinner and less distinct; and, in one example of this kind from the female subject (which forms the subject of one of my plates), this and the superficial fascia have coalesced into one I first observed this fascia in dissecting a male subject brought into St Thomas's Hospital in the year 1800, who had a strangulated crural hernia on the one side, and a reducible one on the other: I next saw it in the operation performed upon Mrs Bispham, hereafter to be mentioned, and have ever since demonstrated it in preparations whilst delivering my lectures on crural hernia. It may be termed the *fascia propria* of the crural hernia. When this fascia is divided, a quantity of adipose membrane is found between it and the sac, and when this is cut through, the peritoneal sac itself is exposed. Behind the hernial sac is the fascia lata, and the sac rests in the hollow between that part of it which covers the crural vessels, and that which passes over the pectineus and triceps muscles, so that the fascia lata is situated posteriorly to the hernia." P. 6.

From the description we gave of the crural ring in the sound state of the parts, we cannot agree with Mr Cooper in saying, that a *thin fascia*, which naturally covers the crural ring, is pushed forward before the peritoneum, and, by also pushing forward the sheath of the vessels, these two parts are united to form the *fascia propria* of the hernia. The *fascia propria* we have found in the cases which we have examined to be perfectly distinct, and the world is indebted to the persevering industry and the acuteness of Mr Cooper for the knowledge of it. All we wish at present to remark is, that Mr Cooper's explanation of the manner in which it is formed is not quite satisfactory; and we cannot help thinking, that instead of saying a fascia covering the crural ring assists in the formation of the *fascia propria*, we would say that it is composed of the cellular lamellæ and fat, which lie over the crural ring, and of the proper sheath of the femoral vessels. It is from a want of knowledge of this bag, (he very judiciously remarks), in which the crural hernia is contained, that the great difficulty in the operation has arisen, and that surgeons have, in some instances, returned the hernial sac unopened, supposing it to be the intestine. We have seen repeatedly much confusion and embarrassment arise during the operation for femoral hernia, from the surgeon not being able to discriminate between the different coverings of the intestine and the intestine itself; and even in dissection after death, we have observed in old herniæ the sac so much thickened, and so easily divisible into a number of layers, and so vascular, that it was almost impossible to distinguish the peritoneal covering from a portion of intestine.

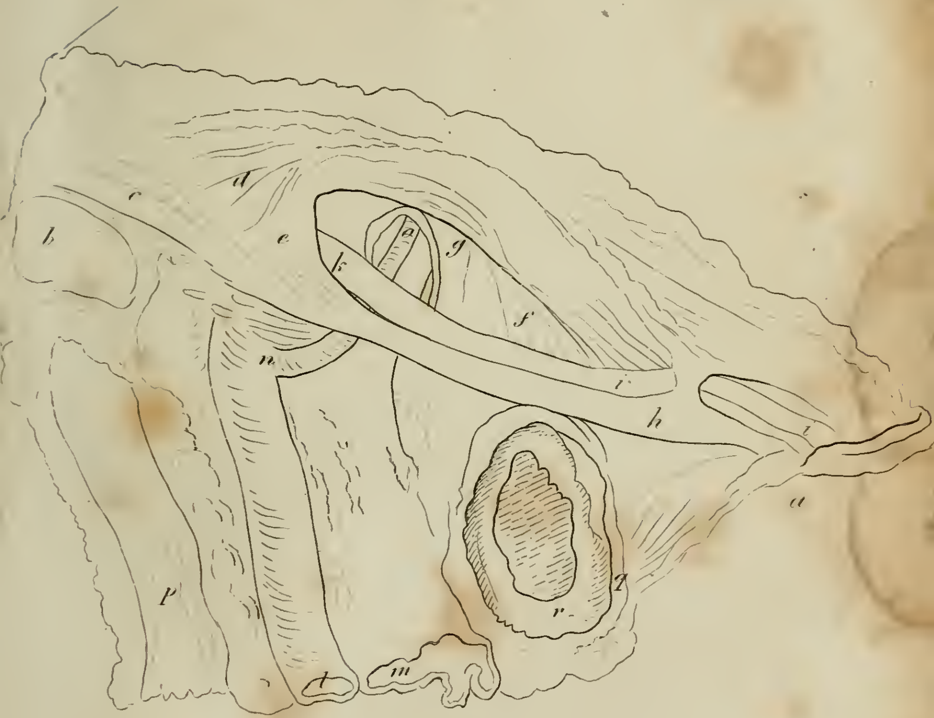
This part of the pathology of hernia appears to us of so much importance to the practical surgeon, that we have copied, in a simple outline, the sixth figure of Plate IV.: It represents the dissection of a small crural hernia.

a Seat of the symphysis pubis.
b Seat of the spinous process of the ilium.
c Tendon of the external oblique muscle.
d Internal oblique and transversalis.
e Fascia of the transversalis
f Tendon of the transversalis.
g Inner portion of the fascia transversalis, passing to unite itself with the tendon.
h The crural arch.
i i Round ligament.
k Round ligament passing into the abdomen.
l Crural artery.
m Crural vein.
n Origin of the epigastric artery.
o Course of the epigastric artery behind the round ligament.
p Crural nerve.
q Superficial fascia.
r *Fascia propria* of the crural hernia, the hernial sac having been drawn into the abdomen to shew this fascia distinctly.

Our author next proceeds to give an account of the *diagnosis* of crural hernia from inguinal hernia, from psoas abscess, inflamed glands, varicose crural veins, steatomatous tumour, hydatid tumour; the cause of its greater frequency in the female; the contents of the sac, and the causes which most frequently bring on the disease. It is of much consequence not to confound the inguinal with the crural hernia, as both the taxis and operation are very different in each, and Mr Cooper mentions several instances where this mistake occurred. It is by no means unusual to hear of a crural hernia having been mistaken for an inflamed gland, or an inflamed gland for a hernia; and this error is the more likely to happen, as in almost all cases of crural hernia, one or more glands are inflamed and swelled, and, in many instances, they so surrounded the herniary tumor as to prevent it from being felt.

No. XIV. page 32

Outline of a Hernial Sac shewing the Fascia Propria described by Mr. Cooper



Taxis.—It is of equal, if not more importance to attend to the position of the patient in making the attempt to reduce the femoral than the inguinal rupture. " The shoulders should be elevated, and the thighs bent at right angles with the body; but even this posture produces little effect, unless, at the same time, the knees are brought together." In this position " the surgeon is to place himself over the body of the patient, and putting both his thumbs on the surface of the tumour, he is to press gently directly downwards, as if he was endeavouring to press the tumour into the thigh, rather than towards the abdomen. If this pressure is steadily kept up for some minutes, till the surface of the tumor is brought even with the line of the crural arch, the hernia may then be pressed towards the abdomen, and will return into that cavity." The truss for the crural hernia is much the same as that recommended for the inguinal; and the same general rules should be carefully attended to in its use and mode of application. It is only necessary that the pad be inclined more downwards, as, from the distance between the abdominal and crural rings, it is necessary that the bearing of the pad of the truss should be from one-half to three-fourths of an inch lower down than in inguinal hernia, and should also press on the upper part of the thigh. " For this purpose, it is best that the pad of the truss be bent somewhat downwards; and not as in the inguinal truss, contained nearly in a line with the spring."

Strangulated crural hernia.—In our review of the first part of Mr Cooper's work, we took notice of the difference of opinion among surgeons, about the time the operation should be had recourse to. In general, the progress of the inflammatory symptoms is much more rapid in the crural than in inguinal hernia, and it is therefore more necessary to guard against delay. Whenever a fair trial has been given to the usual means recommended for reduction, and if the inflammatory symptoms are violent, the operation should be performed, the surgeon always keeping in mind, that the danger of the operation is in every case lessened in proportion as it is performed early; whilst, on the other hand, it is almost universally observed, that it is unsuccessful only when it is performed too late, or when insufficient means have been employed to remove the inflammatory symptoms, which had previously taken place.

" The incision of the integuments is to be begun an inch and a half above the crural arch, in a line with the middle of the tumour, and extended downwards to the centre of the tumour below the arch. A second incision, nearly at right angles with the other, is next made, beginning from the middle of the inner side of the tumour, and extending it across to the outer side, so that the form of this double incision will be that of the letter T reversed.

"The first incision exposes the superficial fascia, which is given off by the external oblique muscle, and which covers the anterior part of the hernial sac; but if the patient is thin, and the hernia has not been long formed, this fascia escapes observation, as it is then slight and delicate, and adheres closely to the inner side of the skin. When this fascia is divided, the tumour is so far exposed, that the circumscribed form of the hernia may be distinctly seen, and a person not well acquainted with the anatomy of the parts, would readily suppose that the sac itself was now laid bare This, however, is not the case, for it is still enveloped by a membrane, which is the fascia that the hernial sac pushes before it, as it passes through the inner side of the crural sheath. This membrane, the fascia propria, is to be next divided longitudinally from the neck to the fundus of the sac; and if the subject is fat, an adipose membrane lies between it and the sac, from which it may be distinguished, by seeing the cellular membrane passing from its inner side to the surface of the sac.

"This is, in my opinion, the most difficult part of the operation, for the fascia propria is very liable to be mistaken for the sac itself; so that, when it is divided, it is supposed that the sac is exposed, and the intestine is laid bare; following upon this idea, the structure is divided in the outer part of the sac, and the intestine, still strangulated, is pushed with the unopened sac into the cavity of the abdomen.

"The hernial sac being exposed, is to be next opened; and to divide it with safety, it is best to pinch up a small part of it between the finger and thumb; to move the thumb upon the finger, by which the intestine is distinctly felt, and may be separated from the inner side of the sac; and then to cut into the sac, by placing the blade of the knife horizontally. Into this opening a director should be passed, and the sac opened from its fundus to the crural sheath."

It often happens, that this operation is sufficient to allow the strangulated intestine to be reduced, for it is now completely exposed, and it is much more under the command of the surgeon's fingers, than when enveloped in its different coverings. If, however, the contents of the sac are so much swelled, that they cannot be made to pass through the neck of the sac into the cavity of the abdomen, it becomes necessary to divide the stricture, and this, Mr Cooper observes, may occur in three different situations.

1st, In the crural sheath, and semilunar or lunated edge of the fascia lata.

2d, At the posterior edge of the crural sheath.

3d, In the mouth of the hernial sac and fascia which covers it.

The seat of the stricture being ascertained by the introduction of the point of the finger, it is to be divided in a direction "obliquely inwards and upwards, at right angles to the crural arch," of a sufficient extent to liberate the intestine. But we may remark, that in every operation for hernia, of whatever kind, the business of the surgeon is, to divide the part forming the stricture, and impeding the return of the strangulated intestine,—this must be divided; and if he divide no more, it is of little importance in what direction the incision be made. Indeed, we have seen cases where the stricture was so great, that it was with much difficulty that the nail of the surgeon's finger could reach underneath it, and he was obliged to divide it in any part where he could get the knife introduced, and in any direction.

The varieties of the crural hernia, which Mr Cooper mentions, arise either from the superficial fascia giving way, so as to allow a portion of the tumour to pass before it, thus dividing the tumour into two parts, or from the tumour not quitting the sheath for the crural vessels. Another variety occurs, where the tumour is formed "in part within the sheath, and also in the common way;" in one case, the author found the umbilical artery on the outer side of the sac. Another, and perhaps the most important variety, is, where the obturator artery comes off in a common trunk with the epigastric, and passes round the neck of the hernial sac.

This distribution of the arteries is by no means unusual; but, in general, the common trunk of the two arteries is so short, that the obturator passes behind the sac. Mr C. mentions only three cases, one which occurred to Dr Barclay, and two which were communicated to him by Mr Wardrop, where the common trunk was so long as to surround and pass anterior to the mouth of the sac.

Mr Cooper, after making some very pertinent remarks on the operation inwards, or that proposed by Gimbernat, and his reasons for not adopting it, concludes the subject of crural hernia by illustrating the whole with very instructive cases.

Mr C. has added a communication from Mr Burns, demonstrator in anatomy at Glasgow, in which, besides remarks on some peculiarities in the structure of the parts concerned in hernia, he gives an account of a case of abdominal inguinal hernia, similar to those mentioned by Petit and the late Dr Hamilton of Glasgow. In all these cases, the intestine entered the *internal* inguinal ring, and, instead of passing along the inguinal canal, and coming out at the *external* ring, passed directly through the abdominal parietes, opposite to the internal opening. Such cases occur either in consequence of an original deficiency in the number of transverse tendinous bands, which unite the columns of the tendon of the external oblique, or from their being lacerated

Umbilical Hernia.—After having taken notice, that the peritoneum is as complete behind the umbilicus as at any other part of the abdomen, our author concludes, that the sac, in umbilical hernia, is formed of peritoneum, except in cases where that membrane brance is lacerated. He then describes the appearance of the disease, and the varieties to which it is subject, its frequency in children, its diagnosis, and the various causes from which it most usually proceeds. These are pregnancy, obesity, ascites, large funis, or a deficiency in the abdominal muscles.

In attempting to reduce this species of hernia, the same attention is necessary in relaxing the abdominal muscles, by elevating the shoulders, raising the pelvis, and bringing the thighs at right angles with the trunk.

"In making the reduction, the surgeon grasps the tumour in his hand, and directs it upwards, as the opening which leads from the swelling into the abdomen is not directly in the centre of the tumour, but a little above it, and he then kneads the neck of the tumour with the finger and thumb of the other hand; but if the swelling is small, and projects only from the abdominal muscles to the navel, without spreading on each side, a direct pressure may be made upon the surface of the tumour with the thumbs, so as to force it into the cavity of the abdomen."

After the hernia is reduced, a proper bandage should be applied; and Mr C. recommends one exactly similar to that used for the inguinal rupture. This, we know from experience, answers most completely, and it is by far the most simple contrivance. The spring should reach from the pad round to the back, a little farther than the spine.

When the hernia is very large, especially when the belly is also pendulous, broad thin pads are recommended, which both keep back the hernia, and give a support to the abdomen. In infants, Mr C. has found the following plan answer:—

"A small section of an ivory ball is laid on the navel; over this is to be applied a piece of adhesive plaster, of the size of the palm of the hand, and a linen belt over the whole round of the abdomen. As soon as the child begins to walk, two thigh straps are to be added to the bottom of the belt, to prevent it from slipping. If this application be carefully persisted in for a length of time, the cure of this disease is very sure to be effected."

Indiscretion, both in the quantity and quality of food, is the most frequent cause of strangulation in this species of hernia; and Mr C. has often observed quantities of ham, and lumps of fat, pass through indigested in those cases where an artificial anus was formed.

Our author has found the tobacco glyster, as directed in Part I. of his work, to be a most useful remedy in the strangulated umbilical hernia. And when that fails, he advises the use of cold applications. The symptoms which render an operation necessary in this species of hernia are the same as those which occur in the other species. Mr C. does not employ the common operation, by a longitudinal incision of the tumor, but has adopted the following:

" As the opening into the abdomen is placed towards the upper part of the tumour, I began the incision a little below it, that is, at the middle of the swelling, and extended it to its lower part; I then made a second incision at the upper part of the first, and at right angles with it, so that the double incision was in the form of the letter T, the top of which crossed the middle of the tumour. The integuments being thus divided, the angles of the incision were turned down, which exposed a considerable portion of the hernial sac. This being then carefully opened, the finger was passed below the intestines, to the orifice of the sac at the umbilicus, and the probe-pointed bistoury being introduced upon it, I directed it into the opening at the navel, and divided the *linea alba* downwards, to the requisite degree, instead of upwards, as in the former operation.

" When the omentum and intestine are returned, the portion of integument and sac which is left at the upper part undivided, falls over the opening at the umbilicus, covers it, and unites to its edge, and thus lessens the risk of peritoneal inflammation, by more readily closing the wound."

In cases where the hernia is very large, and consequently where the risk of peritoneal inflammation is considerable, Mr C. has, in several cases, instead of laying open the sac and the abdominal cavity, and exposing a large quantity of intestines, made a small incision of the integuments, at the neck of the sac, and divided the stricture.

In *ventral* hernia, whether the disease has been occasioned by an enlargement of any of the apertures of the blood-vessels, from original malconformation, from the ulceration of muscles, or from wounds, the same general rules are laid down as those in the other species.

The subject of *Vaginal*, *Pudendal*, *Perineal*, *Thyroidial*, *Cystic*, *Ischiatic*, and *Phrenic Hernia*, our author discusses as minutely as the subject will allow; but these species occur so seldom, and as Mr C.'s information would not admit of a short analysis, we must refer those to the work itself who wish for full information on these subjects.

Our author mentions one remarkable case of *mesocolic hernia*, in which the whole of the small intestines were contained within a sac formed between the layers of a dilated portion of the mesocolon.

He has also found the intestines strangulated, from apertures in the omentum, mesentery, or mesocolon,—from adhesions having formed, in consequence of inflammation, leaving an aperture in which a portion of intestine becomes confined,—by membranous bands formed in the mouths of hernial sacs, which becoming elongated by the frequent protrusion and return of the viscera, surround the intestine, so as to strangulate it within the abdomen when it was returned from the hernial sac.

Mr C., in completing this work, has added many useful and ingenious observations to the anatomist, and he has contributed so much to a very important part of surgery, that he has left little more to be done in it. A most commendable zeal in a profession which interests the happiness of so many individuals, seems to have actuated this gentleman, in pursuits where much difficulty and many obstacles opposed his progress, and which nothing but indefatigable industry and perseverance could overcome.

The anatomical description, and the most remarkable morbid appearances are very fully illustrated in seventeen engravings. The opinion we formerly gave of these as works of art, we might again repeat, as it may apply to the greater number of those contained in the volume before us. Although, however, the drawings do not breathe the spirit of a great master, yet they are executed with great neatness and truth, and much care seems to have been taken in the choice of proper subjects. We ought, however, to caution our readers against one error into which Mr C. has inadvertently fallen. He wishes the plates to be referred to for taking *measurements* of the relative situation and distances of parts. Had they been accurate *maps* instead of *views*, this might have been done, but in the art of drawing it is impossible; for as the different parts are seen in perspective, their apparent distance and situation must vary according to the situation of the eye of the observer.

In the notice we have taken of this valuable work, our chief object has been to extract some of the important information and the judicious practical lessons it contains, not to offer many critical remarks; and the analysis we have made, will, we hope, rather than satisfy the arduous in their professional inquiries, induce them to consult the work itself.

VII.

Projet de Reglement concernant les Décès, précédé de Réflexions, 1°, sur l'abus des Enterremens précipités ; 2°, sur l'incertitude des signes de la mort ; 3°, sur les moyens de rappeler à la vie, dans les cas de mort apparente. Par J. Bunnell Davis, D. M. M. Membre de Collège Royal des Chirurgiens de Londres, &c. &c. 8vo. A. Verdun, 1806.

This work, although written in the French language, is the production of one of our unfortunate countrymen, who, contrary to the rights of hospitality, and the usage of civilized nations, were seized at the beginning of the war by the ruler of the French, and sent as prisoners to Verdun.

The subject is important, the performance respectable, and such an employment of the tedious hours of captivity highly praiseworthy.

In his title page, our author himself has given the chief divisions of his work. The first part contains general observations on the horrors of precipitate interment, and the improper treatment of the body after it is supposed to be dead. The latter abuse being infinitely more frequent than the former, is of much greater importance, and ought to be combated in the most strenuous manner. Different nations have different modes of treating their dead; but it is common, as soon as an individual expires, to expose the body to the cold air, to swathe it so tightly, as effectually to prevent the renewal of respiration, to shut the eye-lids, and bind up the lower jaw. It is then laid upon a board, placed above the bed, and deserted until the time of interment, which is sooner or later, according to the custom of each nation; or it is put into a coffin, and the lid closely screwed down.—Should a spark of life remain, this treatment would effectually extinguish it. Solicitude for the living is urged as the apology for early interment; but what possible bad effects could arise from leaving the body without any binding whatever, and covered in such a manner as to give the greatest possible chance of recovery, should any vitality remain? Our author, however, very properly points out the assistance we may derive from attending to the precursory symptoms in forming our diagnosis of death. After incurable, lingering, epidemic or malignant diseases, it is but too certain; but we cannot be too cautious in forming our opinion when death appears to be the consequence of apoplexy, syncope, lethargy, hysteria, or asphyxia.

" The following phenomena are commonly considered as certain signs of death:

1. The suspension of respiration.
2. The rigidity of the limbs.
3. The abolition of sensation and motion.
4. The want of pulsation in the heart and arteries.
5. The spontaneous discharge of feces.
6. The collapse, opacity, and want of lustre in the eyes.
7. The coldness of the body.
8. The paleness or lividity of the countenance.
9. The relaxation of the lower jaw.
10. The regurgitation of liquids to the mouth.
11. The insensibility of the pituitary membrane of the nostrils.
12. The collapse, softness and wrinkling of the lips.

13. The temples hollow, and the nose contracted and thin.
14. Putrefaction "

Each of these signs is treated of at some length in separate chapters, and all of them are shewn to be equivocal except the last.

" Therefore, as soon as the evident signs of life cease, let us place the body in a warm dry bed, give a proper temperature to the air of the apartment, and employ every means for restoring it to life. If we judge, from the nature of the disease which preceded the death, that these means are useless, we may content ourselves with keeping the body, until its decomposition becomes manifest; but let us never abandon an unfortunate person, who perhaps, by perseverance in the proper means, may be restored to life; should he recover, he will be a living monument of unexpected resurrection, and of the unceasing efforts of humanity. If a person die of malignant fever, scurvy, internal inflammation, or any other disease which corrupts the fluids, soon after death, the belly becomes blue and swelled; black or livid spots appear on the limbs and back; the eyes become hollow and soft, and discharge a puriform fluid; the eye-lids grow yellow; the mouth opens, because the lower jaw is relaxed; the skin gets soft; the muscles flaccid; and, lastly, the whole body exhales a putrid odour All these phenomena united, constitute an infallible proof of real death

Dr Davis commences the third part of his essay with a catalogue of the diseases which most commonly produce apparent death; syncope, apoplexy, epilepsy, catalepsy, quincy, childbirth, death of the fœtus in the womb, chincough, croup, gangrene, lethargy, hunger, convulsions, and eclampsy; and of the accidents which have the same effect, falls, concussion, contusion, foreign bodies sticking in the œsophagus or trachea, strangulation, drowning, suffocation, cold, heat, intoxication, attenuated air of mountains and high situations, and mephitism.

He then gives an outline of the means by which resuscitation is to be attempted in cases of apparent death. In this little novelty was to be expected, but the following defence of the propriety of a national custom in a neighbouring kingdom, is too curious to be omitted.

" I have already said that hearing survived the other senses, and that this faculty continues when the functions, vital, animal, and natural are suspended, and appear annihilated. It is on this account that the Romans and other nations of antiquity established the ceremony of *conclamation*, which consisted in calling by name three times, with a loud voice, the person supposed dead, after sprinkling cold water on his body This practice was evidently founded in wisdom, notwithstanding the ridicule with which it was treated by Lucian and Erasmus Its object was to ascertain the death and to prevent the living sepulture of persons only apparently dead, as Calepinus wisely observes at the word *conclamare.* Hence the metaphorical expression used by the Romans, *conclamatum est*, (the deceased has been called three times, and is deaf to the cries of the attendants), to express—*It is all over, there is no longer any hope.* A custom nearly similar still subsists in some counties in Ireland; the relations and friends of the deceased surround the body and utter mournful cries, wishing him a good voyage to the other world. This species of conclamation is called the *Irish howl*. According to Bruhier, a custom almost similar prevails in some provinces of France."

We pass over the adaptation of the various means of resuscitation to different cases of apparent death, and proceed to the chief object of this publication, the proposed regulations concerning the dead. They are eight in number, and as they are not long, we shall translate them at length, omitting, however, the illustrations.

1st. There shall be appointed, in every district of a justice of peace, one or more professional men for ascertaining deaths.

2d. The professional man thus appointed, shall have the title of *Commissaire aux deces*. It shall be his duty to visit the deceased as soon as he shall be required by the civil magistrate.

3d. Until the commissioner arrives, the person supposed to be dead shall be left in his bed, without any change upon it, in the same situation in which he expired. It is forbid to close the anus, or other natural openings.

4th. The commissary shall carefully visit the body, and shall inform himself from the attendants of the nature of the disease, or accident which preceded death, in order to determine whether it be *positive*, or *probable*, or *apparent*.

5th In case the death shall be declared *positive* and *natural*, the magistrate shall grant permission to bury the body.

6th. If the death shall be *positive* and *violent*, or presumed violent, the commissioner shall state in his certificate the marks, indications, and other circumstances which prove it, or cause it to be suspected, and shall, himself, deliver, without loss of time, the certificate to the civil magistrate, who shall transmit a copy to the justice of peace, and place a guard upon the body. The burial shall be postponed until permission be granted by the justice of peace or civil magistrate.

7th In every case of probable death, the landlord of the house in which the person died, or any other person interested, may cause the body to be carried to the *Necrodoch* *, if the putrefaction shall not commence in twenty-four hours after death.

8th. Except in the cases of violent death, it shall be prohibited to open any body until putrefaction shall have commenced.

PART

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* A public building in which the bodies of the dead may be deposited, until evident marks of commencing putrefaction appear.

PART III.

MEDICAL INTELLIGENCE.

Account of Diseases treated at the PUBLIC DISPENSARY, *(near Carey Street,) London, from* 30*th November* 1807, *to* 29*th Feruary* 1808.

Acute Diseases.

	No. of Cases.		No. of Cases.
Typhus	1	Febris infantum remittens	13
Synochus and Ephemera	9	Variola	4
Quotidiana	2	Scarlatina	6
Quartana	1	Rubeola	6
Ophthalmia	2	Erysipelas	2
Cynanche tonsillaris	8	Rheumatismus	7
——— trachealis	1	Arthritis rheumatica	3
Pleuritis	1	Hepatitis	1
Peripneumonia	8	Cholera	1
——— notha	12	Hysteritis	1
Pertussis	5	Odontalgia	1
Catarrhus	91	Peritonitis	1
Dysenteria	16	——— Puerperarum	1

Chronic Diseases.

	No. of Cases.		No. of Cases.
Cephalæa	6	Vomitus biliosus	1
Vertigo	3	Verminatio	3
Catarrhus chronicus	75	Marasmus	3
Asthma et Dyspnœa	6	Diarrhœa	9
Hæmoptysis et Phthisis	15	Colica	1
Asthenia	15	——— Pictonum	1
Gastrodynia	10	Constipatio	5
Dyspepsia	18	Hæmorrhoides	2
Pyrosis	1	Rheumatismus chronicus	24
Hæmatemesis	1	Pleurodyne	6

Lumbago

CHRONIC DISEASES *continued.*

	No. of Cases.		No. of Cases.
Lumbago et Sciatica	8	Ischuria	1
Paralysis	4	Dysuria calculosa	1
——— saturnina	1	Nephralgia	5
Epilepsia	3	Hydrops tot. corporis	3
Hysteria	3	Hydrothorax	3
Palpitatio	1	Anasarca	7
Hypochondriasis	1	Torpor et livor manuum	1
Chlorosis	1	Psoriasis	2
Amenorrhœa	6	Ecthyma	1
Dysmenorrhœa	2	Erythema cruris	2
Cancer uteri	3	Scabias	6
Dolor uteri	3	Impetigo	3
Leucorrhœa	6	Porrigo	2
Menorrhagia	11	Lichen	1
Hæmaturia	1	Prurigo	5

The month of December was cold and frosty, on the whole, and the atmosphere generally turbid, and almost constantly depositing moisture, during the day; but it was calm until the end. The air was more generally clear in January, but still frosty; the frost alternating, however, with frequent thaws. The same state of weather has continued through the month of February; but it appears to be changing, as the temperature is at present milder. The period, from the last days of December to the middle of February, has been marked by several tempestuous gales; the last of these, on the 10th of February, being accompanied by an extraordinary fall of snow. There was also a heavy fall of snow on the 8th of December, and slighter showers of it on the 11th of the same month, as well as on the 20th and 21st of January. On the latter day the thermometer descended to 12°; and its *minimum* was at the freezing point or under, on a majority of the days in each month. Its medium has been about 36°.

From the prevalence of severe and changeable weather, catarrhal, and other affections of the lungs, have been very general, among all ranks of people, and in many of the instances, which came before us at the Dispensary, they were combined with other disorders, which originated from the same common source, exposure to cold; namely, in some with diarrhœa; in others with chronic rheumatism, dysentery, ophthalmia, sore throat, &c. It will be observed, in perusing the foregoing list, that, of twenty-one cases of pulmonic inflammation, only one appeared in the acute form, which is denominated pleurisy. In the other instances, the pulse was never full, strong, nor hard; a sense of load, tightness, and stuffing, rather than actual pain, was complained of; the fur of the tongue was of considerable thickness, and of a brownish colour; the skin moist, and its temperature scarcely increased. In the old or infirm, and particularly in those who were subject to habitual catarrh, still more decided marks of debility occurred; and these oppressing symptoms continued their course for several weeks; the effusion or secretion in the lungs gradually extinguishing life, or as gradually diminishing, leaving the organs of breathing for a considerable time unable to perform their functions well. On the whole, those who were bled, either before or after they came to the Dispensary, seemed not to do so well, as those from whom that evacuation was not made.

The measles have continued to prevail through the winter; but as they have latterly not been so severe, nor followed by such frequent and severe pulmonary attacks, the number of applications to the Dispensary has been less. Besides those in the list, however, under the title Rubeola, two of the cases of catarrh, and one of dysentery, were sequelæ of measles.

Two of the cases of anasarca were sequelæ of scarlatina. In one of these an unusual circumstance occurred, which appears worthy to be noticed. The fever had left the patient (a boy of 12 years) five weeks before I saw him. He was in a state of debility, with slight anasarca of the lower limbs, and some accumulation of water in the scrotum. Three or four days afterwards, I found these anasarcous symptoms had altogether disappeared; he complained of some slight headach, the pulse was about 90, and the skin a little warmer than before; a dull appearance of the eyes led me to examine them, and I found that, although the pupils were not greatly dilated, and contracted on the approach of a candle, yet he was totally insensible to its light, when within three inches of his face: In short, he was quite blind. A blister was immediately put over the scalp, and some mercurial pills, with digitalis, was given. It may be remarked, that he had not taken the latter medicine before. His sight was partially restored on the next day, and perfectly on the day following. The use of these medicines was not pursued, and he speedily recovered his health, without any return of the anasarcous symptoms, under the use of tonics. Whether a sort of metastasis had actually taken place, it might not be easy to decide; nor is it more evident, whether the operation of the blister contributed to remove the disease.

Besides those deplorable cases of uterine disease, which medicine can scarcely even mitigate, (the scirrhus and cancer of the uterus), instances of pain referred to that organ, and its appendages, are not unfrequent among the poor. These pains sometimes

times come on in a few weeks after delivery in married women, and are often referred to the last childbirth; they are most commonly accompanied by some irregularity in the menstrual discharge, generally by an increase of it, or by alternations of a bloody, with a thinner, less coloured, and offensive evacuation, according to the accounts of the patients. The symptoms vary a little, apparently according as the uterus itself, or its particular appendages, are disordered. In general, the patient complains of pain in the loins, extending round the margin of the pelvis to the groin, on both sides, and shooting down the thigh to the knee, or, in more severe cases, even to the foot. Sometimes the pain is more strictly referred to the uterus itself or its neck, and the loins are scarcely affected; and sometimes it is fixed in one side, above the ilium, as if seated in the ovarium. The stomach is frequently disordered by sympathy, and the patient complains of nausea, flatulence, and other dyspeptic symptoms. Some degree of febrile action occasionally attends these complaints. They are in some instances, without doubt, the signs of incipient scirrhus; but in others they seem to be connected with a degree of chronic inflammation, and diseased secretion, consequent on the irritations of childbirth, or produced by causes suddenly interrupting or deranging the menstrual discharge In one case the slow inflammation, which appeared to be confined to the ovarium and ligaments of the left side, was the consequence of recent marriage. The round ligament appeared to be particularly affected, as the part through which it passes to the pubes was extremely tender. It was relieved by the application of leeches to the groin, and laxatives of neutral salts; but it continued from one period of menstruation to the next. Among the narcotic medicines, which, like all that have been used, occasionally give relief in uterine diseases when others have failed, the tincture of the hop, or humulus lupulus of Linnæus, is not one of the least efficacious. There are no medicines, however, which exert any peculiar action on the uterus; and in the diseases of this organ, just alluded to, we often succeed by employing general constitutional remedies; such as laxatives and diaphoretics, when there is fever on the one hand; or cordials and tonics, when weakness on the other; soothing the pain, in the meantime, by cicuta, opium, humulus, and other anodynes.

A case of severe bilious vomiting occurred on the 15th of February, when the weather was excessively cold, and smart vomiting of bile took place in another patient about the same time

The small-pox has been, on the whole, less prevalent and less severe, than in the autumnal season; it would probably have disappeared during the cold season, according to its usual course, had not the poison been extensively circulated by inoculation.

London, Feb. 29th 1808. T. Bateman.

On Ear-Trumpets.

(Vide Nicholson's Journal, No. 79. for December 1807.)

Mr Gough has lately made some ingenious observations on the theory of ear-trumpets, with a view to their improvement. This has hitherto been neglected by philosophers, and we are uncertain at present in what manner an ear-trumpet acts on the auditory organs. We may conceive the sonoriferous pulses to be collected in the cavity of the vessel, and to pass thence into the meatus auditorius in a state of increased condensation; or we may suppose, that the same pulses strike the sides of the trumpet, and excite similar vibrations in this metallic shell, which imparts them to the orifice of the auditory duct. The latter theory is most plausible, and seems confirmed by experiments. Solid conductors are of no advantage to the partially deaf; and trumpets of a parabolical figure are liable to serious objections. Mr Gough recommends an instrument constructed on the principle of a drum, and he has made some experiments which induce him to hope for beneficial consequences from a contrivance of this kind. By a drum, he means a circular box or funnel, furnished with an ear-pipe, and having its mouth or widest aperture covered with a thin elastic membrane, which must be stretched with an uniform force in every direction, like the vellum of a military drum. The pulses which fall from the atmosphere upon this membrane, will be immediately transmitted by it to air confined in the box, and their escape from this cavity must evidently be through the ear-tube, because the covering of the mouth will not permit them to return by that aperture. The further prosecution of this subject is well worthy of the attention of persons partially deaf, who may reasonably expect some relief from the improvement of acoustic instruments.

Abstract of the Answers of Counsel to Queries respecting the Jurisdiction of the London Royal College of Physicians.

First.—" Have the London College of Physicians any real or effective power (under the act of 14th and 15th Henry VIII.) of controuling *generally* the practice of physic in England, at a greater distance than seven miles from London?"

Second.—" If they have such power, does it extend to doctors of physic, (not graduates of Oxford or Cambridge), or merely to persons practising without a diploma?"

Answer.—I am of opinion, that the London College of Physicians *have not any power* whatever, either under their charter, confirmed by the statute 14th and 15th Henry VIII. c. 5., or by the third section of that act, to controul the practice of physic in England at a greater distance than seven miles from London. There are two clauses in the charter, relative to the subject of their power to controul the practice of physic. One is to prohibit any person, *whether he be fit* or not, to practise physic in London, or within seven miles round London, without the license of the college. If he does so for a month, he is liable to a penalty of 5l. a month, one half to the king and the other to the college; and this remedy by action, is the only way by which the college can prevent the practice of physic in London, or within seven miles round, without their license. The other clause in the charter gives the four censors the power of supervision and correction over physicians, and of punishing them "*pro delictis suis in non bene exequendo, faciendo et utendo;*" but this power of supervision and punishing is confined to London, and seven miles round. Under this charter, the censors cannot either fine or imprison any person for practising in London, *without a license* from the college; they can only fine or imprison *pro malâ praxi.*

Third.—"Are graduates in physic of the Scotch universities, entitled by the act of union to the like privileges in England, as those of Oxford and Cambridge are entitled to under the acts before mentioned?"

Answer.—I am clearly of opinion, that they are not. Lord Mansfield comments on the fourth article of the Union in Jones v. Smart, 1. Term. Rep. 48. "It is true, (says he,) that by the fourth article of that act, the Scots have the same general privileges as the English; but then they must have the same qualifications, otherwise they come not within the same description: For the general article which declares there shall be a communications of all privileges, can only mean such as are of a general nature."—A Doctor of the English Universities may become a member of the College of Physicians; may plead in Doctors Commons; and has various other privileges, from all which a Scotch Doctor, as such, is excluded.

Fourth.—"May Doctors of Physic of the Scots Universities, who, according to the acts of Henry VIII. are groundedly learned, &c. claim to be examined for the fellowship of the College of Physicians in England, although they refuse to be made licentiates? And are they, by the act of Union, placed upon an equal footing, in point of eligibility for the fellowship, with the graduates of Oxford and Cambridge?"

Answer.—It is too fully settled to be now doubted, that Doctors of Physic of the Scots Universities have no claim to be examined for the fellowship of the College of Physicians in England, although they may refuse to be made licentiates. This point is in effect decided in Dr Stranger's case. For though he was a licentiate, and his claim to be admitted a member was grounded upon that circumstance, being a practiser of physic in London, and, therefore, within the clause in the charter, "*et omnes homines ejusdem facultatis de et in civitate predictâ;*" yet the Court did in substance decide, that the bye-laws of the College, by which it was enacted, that no person should be admitted who was not a Doctor of Physic of Oxford or Cambridge, or Dublin, incorporated into Oxford or Cambridge, or unless licentiates, in the manner there pointed out, was a good bye-law; and by that decision it follows, that a Doctor of Physic of the Scots Universities has as such no claim to be examined for the fellowship of the College.

Fifth—"On a review of the whole subject, be pleased to mention, generally, any ideas which may suggest themselves to you, as calculated to promote the ultimate objects of those who are desirous of procuring the reform suggested?"

Answer—The result of the whole is this: The great object cannot be obtained. Any person with a degree, or without one, or with a license from the College, or without, may practise physic in England at a greater distance than seven miles from London, whether he be fit or not, without any person to controul him; otherwise than that by the common law of England, if a person is guilty of *mala praxis*, whether it be for curiosity or experiment, or by neglect, he is guilty of a great misdemeanour and offence, for which he may be indicted. But he is not under the controul, or supervision, or correction of the College of Physicians, or any other, or liable to any penalty for so doing, notwithstanding the statute 14th and 15th Henry VIII.; and, therefore, this mischief can only be, and I conceive ought to be, remedied by the Legislature. As to the claims by the Doctors of Physic of the Scots Universities to be admitted fellows of the College of Physicians, it is hardly worth the contest. If they are fit, and wish to practise in London, they will have of course a license, and by that means be entitled to the same rewards of their talents as if they were members of the College; and by being licentiates, they may be proposed by the President, or any of the fellows, and by that means become members of the College, as much as if they had obtained their degrees at Oxford or Cambridge.

Sergeants Inn, Oct. 15*th*, 1807. JOHN WILLIAMS.

Extract of a Letter on the Use of Arsenic, from Mr JENKINSON, *Oxford.*

Dr Hull, of Manchester, had within a short space of time two patients affected with trismus tonicus, under circumstances as similar as possible. They were both young men, previously in robust health, and in both cases the diease was occasioned by a wound, I believe of the thumb. In the first, the usual remedies for tetanus (mercury, opium, &c.) were employed without success, and the patient died: In the latter, the same course was pursued exactly, without effect for some time, but the mineral solution in full doses, was *superadded* to the plant; the spasms *then* began to give way, and the patient eventually recovered. I am sorry it is not in my power to detail the circumstances more minutely, but Dr H. had time only for a verbal account of the fact, and that in the general way, (as I have repeated it to you,) when I had the pleasure of seeing him last. Nor is he likely, from want of leisure, to communicate the case except as I have given it, or I should not have used the privilege he allowed me of including it in any of my own publications.

Origin of Hospitals.

The origin of public hospitals is remarkable, and not generally known. Ecclesiastical history informs us, that this, perhaps the grandest and most successful effort for alleviating human misery, arose from no common species of benevolence, but from the impulse of singular piety upon the sensibility of a female mind, softened by a series of domestic afflictions, and urged by the desire of atoning for imaginary guilt. In the fourth century, a Roman lady, of a noble family, by name Fabiola, by religion a Christian, left by the death of her husband in sole possession of an affluent fortune, was the first who built an infirmary for the reception of the sick and houseless, where they were supplied with every comfort. Jerom calls her the glory of the Christians, the wonder of the Gentiles! The account which he gives of her it this: Divorced from her first husband, who proved an abanddoned libertine, during the life of the first she married a second husband, who was sincerely attached to her, and whom she survived. Among other melancholy reflections consequent upon his death, being led to conceive her second marriage criminal, she voluntarily underwent a solemn penance, assumed the plainest dress, defaced her beauty, submitted to the meanest drudgery, sold her estates, which were answerable to her noble birth, and converted them into money, for the relief of the poor, and was the first who built an infirmary, into which sick and distressed objects of every description were collected from the streets. Many who were afflicted with distempers the most loathsome and offensive she attended in person, carried them in her arms, bathed their sores, moistened the lips of the dying with her own hands, and so tenderly assuaged their miseries, that many who were well envied the sick. Rome was a scene too confined for her charity; she visited, either in person or by her deputies, all the country 'round, and even crossed the sea in quest of new objects of compassion. At length she took a sudden and unexpected resolution of visiting Jerusalem; on which occasion she was entertained a short time by Jerom in his retreat at Bethlehem. She returned to Rome, and devoted all her property and all her time to relieving the sick and the indigent till she died. Her funeral is said to have been attended by a more numerous concourse, and with a zeal infinitely more fervent, than the triumphs of Scipio or Pompey. In such a character the superstition is lost in the benevolence; and we might pardon superstition itself, if it had never taken a different turn.

Account of Professor WALTER's *Museum.*

THE Anatomical Museum, collected and arranged by Professor Walter at Berlin, has been purchased by the King of Prussia, and given to the public for the use of the Pepiniere, or Medical School for the Army. This is a large collection; the whole number of preparations amounts to more than three thousand. These are arranged in separate rooms, according to the structure of parts; the natural preparations are placed together, and the morbid are classed by themselves. Each one is in a glass case, and placed upon high narrow tables, so as to admit being viewed on every side. There is a number affixed to every preparation, and a reference to the printed catalogue, which gives a description of all the different objects in the museum. Although upwards of five hundred quarto pages are filled with a printed account, in Latin, of this collection, yet we are told, in a dull and inflated preface, that the author's son will publish a more particular description of the most valuable preparations, and especially of the morbid and singular cases, which are by far the most interesting. Walter boasts of having spent more than fifty years of his life in making this collection, and declares he has dissected, or assisted in the dissection of more than eight thousand bodies. Some dissections of the nerves are wonderful instances of German industry and perseverance, and the whole forms a valuable assemblage of useful and instructive knowledge. It is open to the public at large every Monday and Friday, and to the students every day. Making it so easy of access appears an unnecessary indulgence, because it only gratifies an idle curiosity; and women and children crowd there on every occasion, to gaze and giggle at those sights which excite improper feelings in minds not prepared to look at them. Several young men always attend to point out and to explain the most important objects of curiosity to strangers; and it was observed, that their attention was principally confined to those tables which held the preparations of the sexual organs. We shall take an opportunity of giving some further account of the principal contents of this celebrated collection, as soon as the publication above mentioned comes to hand.

Extract of a letter from GEORGE NESSE HILL, *Esq. Surgeon, Chester, on the Puriform Ophthalmia of Infants.*

THE consequences of what may now properly be called the old mode of treatment of women during gestation and parturition, were often so injurious, and even so frequently fatal to human life, that the often speedy, and generally simple operation of child-birth was, by the mistaken conduct, and absurd notions of ignorance, rendered a most painful and mischievous event to the terrified subject. How great, how salutary a change has succeeded the investigation of the artificial causes which produced so extensive an evil, modern practice has the felicity of daily verifying. Much having been effected for the parent, the offspring has not been altogether neglected; the rash and offensive introduction of improper matters into the stomach, superabundant clothing in the mummy stile, offensive ligatures, and particularly most mischievous bandages round the head, are now it is hoped universally dismissed, for the natural food as soon as ready, and an easy and less complicated mode of supplying by art a continuance of those supports, which nature had so wisely and commodiously furnished during uterine residence. Still the great and sudden change from the womb to the world, from darkness to light, from the contact of water to that of the atmospheric air, must produce considerable effects upon the tender subject. One of these effects I have, for many years, found to be of considerable importance, and which, I conceive, has not met with all the attention it deserves; it is the too early and unguarded admission of light and heat to the eyes of new born infants. Upon the birth taking place, the accoucheur has scarcely resigned the child to the attendant, but it is, much too commonly, taken to face a blazing fire, with most probably the addition of a candle at no great distance; and it is kept in this situation, not only during the time necessary for dressing, but long after the business is performed, by being laid on its side, with the face to the fire, on the knee of the nurse, whilst the mother is recovering the first consequences of labour. The result of this management is too frequently the disease called the puriform ophthalmia a complaint never unattended with danger, and always of considerable difficulty to manage and conduct to a happy termination. But should blindness, the most melancholy of results, be escaped, the source of mischief, now under comment is continually producing much complaint in the eyes of infants, evinced in a variety of forms; which maladies are commonly attributed to the "child having caught a little cold somehow or other:" thus the foundation of ophthalmic tendency for life is often laid, more especially that disgusting appearance attendant upon scrofulous habit.

The number of the Journal for April last contains, at p. 159, a very useful communication on the present subject by Mr Gibson of Manchester, which there can be no doubt will, as it merits, excite general attention, since there exists, throughout the medical world, an anxious wish to prevent and mitigate the evils "flesh is heir to" on the very threshold of existence. The only cause of the puriform ophthalmia assigned by this author, is the contact of an acrimonious secretion in the vagina of the mother with the eyes of the offspring, as it enters into external existence. Early in January last I was desired to attend a lady in labour of her fourth child. The business happening to be speedily over, the necessary attendant was not immediately to be had, the child was given to a servant not accustomed to children, who placed it before a large blazing fire until the appointed nurse came. My attention to the mother prevented me knowing this circumstance until it had operated some time. In a few days the left eye (being that most exposed) was affected with the purulent discharge to a great degree; the other soon partook of the disease, but was never so much affected. It continued, notwithstanding every care, for many weeks, and indeed constituted the worst case I had ever seen, where blindness was not the ultimate consequence. In justice to the excellent remarks of Mr Gibson it must be observed, that the mother of this child had been subject to leucorrhœa, of the species designated by the late Dr Darwin fluor albus calidus, during her pregnancy of all her children; but from previous suspicion in other cases, that this might operate as a cause of the ophthalmia, I had been particularly cautious to delay rupturing the membranes as long as possible, so that the head remained a very short time in the vagina unprotected by them, having entertained the notion that this method, with the rush of waters, would in some degree prevent long contact, and also remove the offending cause But as in every case this cannot be accomplished, and the face must necessarily continue exposed to its influence, I have been in the habit of directing immediate and long continued ablutions of the eyes with tepid water, as much in the dark as practicable. These precautions were observed with respect to the three first children, and their eyes were never attacked with the disease, although the maternal complaint existed during each gestation in defiance of every remedy; in the last I have no doubts but that both causes combined to produce the dangerous and very distressing effect which followed. It is perhaps almost needless to recal to the mind of the reader the very great difference of situation as to darkness and light, density and rarity of mediums, long application of a soft balsamic fluid, and sudden exsiccation of that fluid by the direct appearance of the conjunct stimulus of light and heat, with the consequences that must often result from these changes, when an organ of such a structure as the human eye is the subject of them, introduced from the uterus to the world; so far as light and heat, dryness and moisture are considered, the direct experience of the adult will furnish considerable information.

When notwithstanding everyprecautionary attention to the previous healthy state of the parts through which the infant is to pass, and from the nature of the labour, the waters come off early, and the face lies long exposed to the acrimonious vaginal secretion, there is much reason to fear the purulent ocular affection will follow. I have no doubt but that, in a majority of cases thus situated, the entire seclusion of artificial light and heat, with immediate and almost unceasing tepid ablution, will render most effectual security. It is most obvious, that the surgeon ought to direct the time and mode of gradual exposure of the eyes to daylight.

When the disease has actually taken place, false tenderness, as it respects keeping the eye-lids constantly severed from adherence, by the secreted matter inspissating on the tarsæ, has been the occasion of repeated instances of blindness, to add nothing respecting numberless degrees of diseased results, existing for life, short of this mournful termination; hence mothers are rarely to be trusted in cases of this description. Unintermitted removal of the puriform fluid, as fast as secreted, by the application of simple tepid water, and a regular healthy state of the bowels, appear to be points of the utmost consequence in the curative indications; during the hours of night, (and only during those hours at all), in the early stage of the malady, the common smooth bread cataplasm, or soft sponge, imbued with tepid water, will answer every intention; the astringent collyriums, and alum cataplasm, have seemed to me as most useful, when the disease has continued some time, and the morbid secretion still remains abundant.

On Charcoal as a Galvanic Agent in Exciting Sensation. From a Correspondent.

The effects of galvanism on the organs of taste and vision have been particularly described by Fowler, Hunter, Robison, Humbolt, and others; but the circumstance of charcoal producing these effects, in the same manner as metallic substances, has never yet, I believe, been made public, although charcoal having long been known to be a conductor both of electricity and galvanism *, there appeared reason to infer that this would be the case.

A piece of zinc being placed on the upper surface of the tongue, and a piece of charcoal on the lower surface, on bringing the two substances into contact, the same sensation is perceived as when two different metals are made use of. Tinfoil, or any metal easily oxydated, gives the same result as zinc; but if a metal which is oxydated with difficulty, as silver, is substituted, no sensation takes place. Coke or cinders produce the same effect as wood-charcoal.

If the charcoal is placed on the upper surface of the tongue, and a rod of zinc thrust high up the nostril is brought into contact with it, a flash of light is perceived.

If the zinc previously in contact with the tunica conjunctiva of the eye is made to touch the charcoal lying on the tongue, the same effect ensues.

A rod of zinc being thrust as high as possible into one nostril, and a rod of charcoal into the other, on bringing the extremities into contact, a flash of light, of a circular form, is perceived in both eyes, and at the same time a peculiar throbbing sensation in the inner canthus of each eye.

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* Priestley, Hist. of Electricity, p. 513.—Wilkinson on Galv. V. II. p. 330.

If the zinc and charcoal are applied, one to the conjunctiva of each eye, on making them touch, the luminous appearance is observed without the throbbing sensation.

In either of the above experiments, if instead of bringing the charcoal and zinc into immediate contact, any metallic substance, as brass wire, is made to touch them both, the effect will be the same.

Prof. Robison relates an experiment *, which seems to prove that the galvanic sensation may be felt when the metallic substances are at a certain distance from each other. He put a piece of zinc between one of the cheeks and the gum, and a piece of silver in the opposite side, within the other cheek. Having introduced a rod of zinc, betweeen the zinc and cheek on one side, and a rod of silver; between the silver and cheek on the other, he afterwards brought the extremities of the two rods in contact in the outside of the mouth; he then felt a powerful sensation in the gums, together with the flash. On repeating this experiment with charcoal instead of silver, between the cheek and gum, the flash and sensation in the gums are perceived; or if, with either charcoal and zinc or silver, and zinc between the cheeks and gums, a metallic substance of a different kind, as brass wire, or a thin piece of lead, is substituted for the silver and zinc rods, the result will be the same.

May not the luminous appearance caused by galvanism be considered as a proof of the truth of Dr Darwin's hypothesis, that "the organ of vision resembles the muscular parts of the body in possessing a power of being excited into animal action † ?" Sensation is here evidently excited by the same influence which, in other cases, causes the contraction of muscular fibres. It is scarcely possible to conceive that any mechanical impulse is communicated to the retina; it appears therefore probable, that the sensation which arises is the consequence of a peculiar action of that part, excited by the galvanic or electric fluid, disengaged from the conducting substances.

Is it not possible that ocular spectra may, in some instances, be occasioned by the electric fluid contained in the eye, which some external impules has put into a state capable of exciting that

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* Wilkinson, Elem. of Galvanism, Vol. I. p. 161.

† Zoonom. Vol. I. p. 19. Vol. II. p. 530. Dumas Princip. de Physiol. T. II. p. 151. "L'Activité etant un caractère essentiel du sentiment celui en n'existe qu'en vertu d'une certain action des organes."

that peculiar action of the retina, in which the sensation of light consists * ?

Extract from a Letter from Mr L. to Dr KELLIE, *Leith.*

SOMETIME ago I met with Mr Bingham, surgeon, of Uxbridge, at Iver, who politely invited me to accompany him on a visit to a family in that village, assuring me, that my curiosity would be amply gratified. He was not mistaken.

Mr Bingham introduced me to the mother and two of her children; the rest had gone out. On examining their hands, the thumbs only appeared perfect; instead of fingers, they had only the first phalanx of each finger, and the first and second of the ring-finger of the left hand. The fingers had no nails. Such, the good woman assured us, was also the condition of the rest of the family, and had been (with slight variations) that of nine numerous generations of her immediate ancestors.

She informed us, that it was the women only who had the misfortune of entailing this defect on their offspring; that sometimes they had a child with perfect fingers, but not often. She observed, that they were not sensible of any great inconvenience from the want of so many joints, for they had never experienced the advantage of perfect fingers.

She told us the following pretty story concerning the origin of this strange defect, which may deserve a place among the legends of the nursery, if not in your Journal.

A clergyman, who had taken great delight in the cultivation of fruit-trees, had long suffered keen disappointment, in consequence of the barrennes of a favourite tree, which he expected would yield an uncommonly find kind of fruit. At last some appeared, and they were approaching to that state of maturity which would enable him to determine the all-important point; when, notwithstanding a strict charge which he had given to his gardener, to allow no persons to enter the garden, the apples disappeared. Enraged, he taxed the gardener with the theft, which he stoutly denied. In reply to a charge of disobedience of orders, he affirmed, that he could not have supposed that these were meant to exclude his mistress.

The parson's lady was then in a state of pregnancy. Her husband inquired softly, whether her longing had tempted her, like our original mother, to take the strictly forbidden fruit? She said, no.

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* Sauvages' Nosolog. 8vo. Tom. IV. p. 283.

The gardener was now accused with the utmost violence; and the cool assertion of his innocence only contributed to the transformation of the divine into a demon. In that state he rushed into his wife's presence, and with dreadful rashness wished, that if she was guilty, the child which she was then with might be born without fingers!—Poor woman! she had indeed taken the fruit; and thus became the grand-progenitrix of a fingerless race, unto (even nów) the tenth generation.

Extract of a Letter from Professor TAVAREZ of Lisbon.

I HAVE the honour to send you a specimen of the bark of the *Portlandia Hexandria* of Jacquin, or *Goutarea* of M. Aublet. One ounce, infused in distilled water, gave ʒi. and ℈ij. of extract of a bitter nauseous taste, not very perceptibly felt on the tongue, but very strongly in the throat, like that of aloes, very lasting. The same quantity, in proof spirits, gave ʒi. and 20 grains of an extract with the same taste; in alcohol, it furnished ʒij. and 27 grains of an extract equally bitter.

From the observations of several physicians, it appears, that,

1. It cures intermittent and remittent fevers, and even typhus, in the same manner, and in the same circumstances, as cinchona.

2. In confluent small-pox, in erysipelas, approaching towards gangrene, in carbuncles, it is superior to cinchona, in checking and dissipating the gangrene, where the latter has failed.

3. In chronic diseases, in which bitters are indicated, alone or combined with aromatics, astringents, and wine, according to different circumstances, and in different forms.

4. The dose is at first from 10 to 20 grains, because, being more stimulating than cinchona, it sometimes produces anxiety and vomiting, when given in larger doses than ʒss. Still we may sometimes push it the length of a drachm of the powder, or even farther, according to the constitution of the patient.

5. It is applied externally in decoction, as an excellent digestive, in scrofulous ulcers, in degenerated venereal sores, in caries, even in cancerous affections; sprinkling the part affected with it in powder, and then using fomentations of the decoction, as is usually done with cinchona, giving it at the same time internally.

Such is the information I have at present to communicate on the subject of the *Portlandia*, which grows abundantly in our possessions in the Brazils. There are, I believe, varieties of it; but I am waiting for more accurate information from our botanists, at present travelling in Brazil, when I intend to publish all the observations made with regard to it by myself and others, not forgetting its effects in gout and rheumatism.

Mr Collins, surgeon in Swansea, writes, that his patient with the singular tumefaction in the abdomen, whose case is described, Vol. I. page 298. of this Journal, died in great misery. Upon examination, a large cyst was found attached to the liver, containing about five quarts of a yellow bilious fluid, not offensive in its smell, and which seemed to have deposited a leathery substance, of a very red or yellow colour, like saffron.

Extract of a Letter from Dr THACKERAY of Chester.

Martha Martin, æt. 23.—At the age of 14, her face and breast used to be affected every month with an erysipelatous swelling, and the eye and breast would become black as if she had received a severe blow, accompanied by violent pain, vertigo, and a copious and limpid discharge from the nostrils. She had also violent spasms in her head, face, and different parts of her body; light made no impression on the pupils on the eyelids being opened; tickling of the nose excited no sneezing; no kinds of voluntary motion were performed; the jaw was now closed; respiration difficult, and the pulsation of the arteries quick and irregular; catamenia natural, and body open. The spasm also extended to the bladder, no urine being voided without the assistance of the catheter; she often bent and bruised herself without sensation of it. In this situation she remained from one hour to four, eight, twelve, or even more; then the respiration and pulsation became reuglar, her sensation recurred, and she found herself fatigued, but recollected nothing of what had happened during the paroxysm. She was often bled topically and generally, blistered, had setons, underwent two courses of mercury, which nearly destroyed her, being compelled to swallow the saliva; and she took various nervous and antispasmodic medicines, as musk, camphor opium, &c. &c. with but transient relief. She tried the warm and cold bath, electricity, &c. without effect. From the 26th of March 1804 to Septemper 22d, 1807, when she came under my care at the Infirmary, her jaw had been altogether locked, except when opened by art, and as soon as the force was removed, shut again with great violence; and not a drop of urine had been voided without the aid of the catheter. I immediately ordered eight ounces of blood to be taken from the temporal artery, which was repeated thrice, and the jaw, neck, &c. to be rubbed morning, evening, and night, with the following liniment:

℞ Ol. olivæ,
Ol. terebinth. āā ℥iß.
Camphor ℥ß. Solve.

Internally the following draught,

℞ Infus. rad. valer. ʒviß.
Tinct. digit. gutt. x. ad xx.
Sp. æth. vitr. comp. gtt. xv.
Syrup. althaeæ ʒi. M.
Ft. Haust. quater quotidie sumend.

was given by means of a tea spoon, through an opening made by extracting two of the great molares, one on each side, the only way she was capable of receiving any sustenance. On the 18th of October, the mouth opened a little, but she could make no urine. About the 26th of December, her mouth was perfectly free of spasm, the water was passed without the catheter, and she was dismissed cured. By a letter a few days since, I find that she has had no return of her complaint.

Extract of a Letter from Mr BARLOW, *Blackburn, Lancashire.*

BEING actuated by a desire of promoting the improvement of the art of midwifery, through the channel of your useful Journal, I solicit the attention of your readers to an axiom in midwifery, which seems to me involved in some degree of obscurity; it is respecting the possibility of adjusting the position of the head of the child during labour, when presenting with the face towards the os pubis of the mother. Few authors who have written on the subject have furnished us with precepts sufficiently explicit on this species of presentation. The observations of Dr Clark in the Transactions of a Society for the Improvement of Medical and Chirurgical knowledge, Vol. II. appear plausible, for out of fourteen cases of this untoward presentation, thirteen have yielded to his tactile manœuvres. How far this mode of practice has been successful, yet remains a desideratum in the obstetric art; for no remarks, either for or against this simple expedient, have come to my knowledge since the publication of those above alluded to. The elucidation, then, of a matter so important to the practical accoucheur, shewing explicitly its possibility or impossibility, would, in all likelihood, meet the approbation of a majority of your readers.

Remedy for the Hooping-Cough.

THE acetite of lead has been lately recommended for the hooping-cough; it may be given to children, without producing any bad effects on the stomach and bowels, and it is said to relieve the symptoms of the disease very speedily. The following formula has been employed.—℞ cerussæ acetatæ gr. iij. ad gr. v. syrup. violæ ʒij. aquæ rosæ ℥ij. M. f. mistura. Capiat coch. parvulum 4ta vel 5ta quâque horâ.

DR BARTHEZ, formerly an eminent professor at Montpellier, late physician to the Emperor at Paris, has published a work entitled, "*Consultations in Medicine*," in two volumes 8vo. to which are annexed a variety of consultations of several other distinguished French physicians, as *M. M. Bouvart*, *Fouquet*, *Lorry*, and *Lemur*.

DR SHAW has been solicited to publish his lectures on Natural History, delivered last year at the Royal Institution; they are now in the press, and will soon be published, illustrated with plates.

THE First Number of a new London Medical Review is just published; it is to be continued Quarterly.

A NEW Work is in the press, entitled, *The Medical Mentor;* or, Reflections on the History, Importance, Objects, and Difficulties of the Healing Art; consisting of a series of Letters from an old Physician to his Son, during his collegiate and other studies, preparatory to his engagements in the active duties of the profession.

DR ARTHUR EDMONDSTON, Fellow of the Royal College of Surgeons, Edinburgh, has in the press "A Practical Inquiry into the Nature and Treatment of the Hooping-Cough."

ERRATA—P. 30. text, 3d line from the bottom, *dele* (.), and for *T* read *t*.

No. XV. will be published on the 1st of JULY...Communications may be addressed to the Editors of the EDINBURGH MEDICAL AND SURGICAL JOURNAL, to the care of Messrs Constable & Co. Edinburgh; Mr J. Murray Fleet Street, London; or Messrs Gilbert & Hodges, Dublin.

THE

EDINBURGH
MEDICAL AND SURGICAL JOURNAL.

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PART I.

ORIGINAL COMMUNICATIONS.

I.

Observations on a peculiar Affection of the Testis, attended with the growth of Fungus from that Organ; illustrated with Cases. By WILLIAM LAWRENCE, Demonstrator of Anatomy at St Bartholomew's Hospital.

I HAVE met with several diseased testes, exhibiting appearances, which have not, I believe, been described by any surgical writer, but which must probably be familiar to the practical surgeon; since the numerous examples that have fallen under my own observation lead me to suppose, that the affection is by no means of rare occurrence. I am induced to lay before the public the facts which have come to my knowledge on this subject, in consequence of its not being noticed, at least in the ordinary sources of surgical information; and from having seen the operation of castration performed, as I think it will appear, unnecessarily, in several instances.

The causes, symptoms, and progress of the disorder, will be sufficiently elucidated by the annexed cases. I shall, however, shortly describe its history, in order to bring the facts which the cases establish under one point of view.

The patient has generally assigned some blow, or other injury, as the cause of the complaint; in other instances, it has originated in the hernia humoralis from gonorrhœa, and sometimes has appeared spontaneously. A painful swelling of the gland, particularly characterized by its hardness, is the first appearance of the disease. After a certain length of time, the scrotum, growing gradually thinner, ulcerates; but the opening which is thus formed, instead of discharging matter, gives issue to a firm and generally insensible fungus. The surrounding integuments and cellular substance are thickened and indurated by the complaint, so that there appears to be altogether a considerable mass of disease. The pain abates, and the swelling subsides considerably, when the scrotum has given way. In this state, the disorder appears very indolent; but, if the fungus be destroyed by any means, the integuments come together, and a cicatrix ensues, which is inseparably connected to the testicle.

An examination of the part, while the fungus still remains, discloses to us the fact, that this growth has its origin in the glandular substance of the testis itself; that the coats of the part are destroyed to a certain extent; and that a protrusion of the tubuli seminiferi takes place through the aperture thus formed. I have often ascertained the continuity of the excrescences with the pulpy substance of the testis; of which we shall find more or less remaining, according to the difference in the period of the disorder. It appears to me, that the glandular part of the testis experiences an inflammatory affection in the first instance, in consequence of the violence inflicted on it; and that the confinement of the swollen substance by the dense and unyielding tunica albuginea sufficiently explains the peculiar hardness of the tumour, and the pain which is always attendant on this stage of the disorder. The absorption of the coats of the testis, and of the scrotum, obviates the tension of the parts, and thereby restores ease to the patient, at the same time that the fungus makes its appearance externally.

I think it not improbable, that, if the complaint were left entirely to itself, the swelling would subside, the fungus shrink, and a complete cure ensue without any professional assistance; but the disorder is so indolent in this stage, that a spontaneous cure would not be effected until after a very long time. The excrescence may, however, be removed by the knife, or, if the nature of its attachment permit, by ligature; or it may be freely treated with escharotic applications. The removal of the protuberance to a level with the scrotum, by means of the knife, is the shortest and most effectual mode of treatment. I can see no ground whatever for proposing castration in this malady, since in no part of its progress, nor in any of its possible consequences or effects, can it expose the patient to the slightest risk. Some may be disposed to defend the removal of the part, because it would bring the case to a more speedy termination;

and if a patient, after being informed of all the circumstances, should desire the operation on this ground, the surgeon would be justified in performing it. But I think he never could be warranted in proposing so painful and dangerous a remedy as castration for a disorder attended with neither pain nor danger, and admitting of cure by a perfectly safe and mild kind of treatment.

Funguses of a different character and progress may no doubt occur in the testis; but the description already given will serve to discriminate that particular species to which alone the present observations are designed to apply. In a case in which my friend, Mr Macartney, performed the operation of castration, the testis itself was sound, and the fungus, which was a firm and dense substance, grew from the tunica albuginea.

I have already stated, that the affection which is described in these observations, is not noticed in any surgical work with which I am acquainted; yet there are cases recorded, which bear a slight analogy to this in the nature of the disorder. Petit, in a memoir*, " sur la suppuration de la membrane propre de testicule," describes the discharge of the substance of the testicle in small portions from an abscess of the part; and Swediaur† has a case of the same nature. Sabatier‡ mentions inflammation and swelling of the testis, with a bursting of the part, and escape of its substance, as occurring in the radical cure of the hydrocele. Bertrandi§ describes the same circumstances, and relates a case in which the protruded part subsided under the application of irritating powders. In arranging the cases, I have placed first the four from which the inferences respecting the nature of the disease have been chiefly deduced. The four succeeding histories show the effect of escharotic applications; the third and ninth exemplify the treatment by ligature; and the fourth exhibits the effect of the use of the knife in the removal of the fungi.

Case. I.—William Cable, aged 42, was admitted into St Bartholomew's hospital in August 1804. Five months before his admission he received a blow on the testicle, which caused most severe pain for half an hour, and then went off, leaving a dull unpleasant sensation. In three weeks, the gland began to swell at its upper part, and continued increasing, so as to form a large knob in that situation.

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* Memoires de l'Acad. roy. de chirurgie, tom. 4.

† On the Venereal Disease, p. 72.

‡ Mem. de l'Acad. tom. 5. p. 677.

§ Memoir on the Hydrocele, in the third vol. of the Mem. de l'Acad.

By the advice of a surgeon whom he consulted at this time, he applied a poultice, composed of strong beer grounds, vinegar, and linseed, which caused great heat and pain. Soon after, however, the scrotum ulcerated, and a fungus thrust forth, unaccompanied with any discharge of matter. On his admission into the hospital, the testis appeared enlarged to about twice its natural size, and felt hard. There was a slightly projecting fungus near the top of the testis, apparently proceeding from the gland itself; and two openings in the neighbourhood penetrated about half an inch into the same part. These were laid into one by the division of the intervening space. The operation of castration having been thought advisable, its performance afforded an opportunity of examining the nature of the disease. The fungus proceeded from the upper part of the glandular substance of the testis, about one half of which retained its natural appearance and structure: there was a gradual change from this healthy portion of the excrescence. The chord was unaffected. The specimen is preserved in the anatomical collection of St Bartholomew's hospital.

In a testis removed in beginning of 1807, the projecting fungus was small, and continued into the upper extremity of the testis; of which three-fourths retained its natural appearance. In another preparation, belonging to the anatomical collection of the hospital, which I am only so far acquainted with as to know that the part was removed in the hospital, the whole body of the testis forms an excrescence projecting beyond the level of the scrotum.

The body of the testis seemed to be the seat of an abscess in an instance where the affection had occurred spontaneously. The sides of this collection were formed by the thickened coats, and possessed several small prominences: the fungus was a larger one of the same description. These projections were portions of the substance of the testis, altered in their appearance.

Case II.—A patient was admitted, in the summer of 1804, into St Bartholomew's hospital, with a large fungus of the testis. An oval body placed behind the excrescence was supposed to be the gland itself. This complaint had proceeded, in the first instance, from a blow, which caused inflammation and swelling of the part, followed by ulceration of the scrotum, and protrusion of the fungus. The excrescence was reduced, by the application of caustic and red precipitate, to a level with the surrounding skin, and the cicatrix had commenced, when the patient was suddenly carried off by peritoneal inflammation. The body of the testis was entirely destroyed; the epididymis remained, and was pervious to quicksilver. In the bottom of the chord, and just behind the projection, there was a cyst containing a clear watery fluid; and this had been supposed to be the testis during the man's life.

Case III.—A young man was admitted into the hospital, in the beginning of 1807, under the care of Sir James Earle. He had a fungus of considerable size, connected by a narrow attachment to the testis. A ligature was applied round the base of the part, but it did not separate until some weeks after, as it had not been sufficient to stop the circulation completely. When this body was removed, it was clearly seen to consist of the whole glandular substance of the testis itself. The application of the ligature caused much pain; and the ultimate separation, which was performed by the knife, when the connecting pedicle had become very thin, produced considerable hemorrhage. The parts cicatrized, and the man was completely cured.

Case IV.—A gentleman contracted a gonorrhœa in the month of April 1807. The symptoms were uncommonly severe and troublesome. After they had subsided, and about six weeks from the first attack, a swelling of the testis came on suddenly in the night, attended with such excruciating pain as to make the patient almost delirious. He was extremely feverish, with a hard and full pulse. As he was of a plethoric habit, 20 ounces of blood were drawn from the arm; and the antiphlogistic treatment strictly enforced in other respects. The inflammation and pain of the parts, and the sympathetic fever, still continued considerable, in spite of every means adopted for their prevention. A violent rigor seized the patient in about three weeks, and a collection of fluid pointed near the middle and anterior part of the testis. The febrile symptoms now subsided, and the swelling diminished; but although the integuments were thin, and the fluctuation very manifest, there appeared to be no disposition to burst. A puncture was therefore made, and a table spoonful of thin matter came away. A few days afterwards, a whitish, fibrous, and insensible substance shot out of the opening. Another aperture formed by ulceration, about a quarter of an inch from the first; and when the two were laid into one, the fungus increased to the size of a walnut. The discharge from its surface was of a sanious kind, and very offensive. This was removed with the knife, on a level with the scrotum, and no pain whatever was experienced from the cut. The amputated portion, being macerated in water, and attentively examined, assumed exactly the appearance of the convoluted tubes which form the glandular part of the testicle, as they are exhibited in the unravelled preparations of the organ; so that we must undoubtedly ascribe its origin to a protrusion of the substance of the gland. It was necessary to repeat this operation twice; after which the granulating edges of the scrotum being approximated by sticking-plaster, gradually healed.

CASE V.—WILLIAM MATTHEWS, aged 23, was admitted into the hospital in July 1802. A great hardness of the right testicle came on about six months before, when he was at sea; it was attended with extreme pain. In four months from the first attack the skin burst, the pain went off, and a hard insensible excrescence projected from the surface of the scrotum. He cut this away gradually, and the parts cicatrized. A large scar still denoted the situation of the disease. The spermatic chord, which was sound, could be traced down to a very hard lump, about the size of the last joint of the little finger, and firmly connected to the cicatrix.

About a month after this attack in the right testicle, the left became affected in the same way; and the progress of the disease was nearly the same, except that none of the fungus had been removed. The left spermatic chord, which was perfectly sound, terminated in a hard lump, from which there was continued through the skin a firm fungous mass, about the size of a walnut, of a blackish colour externally, and insensible to the feel. The colour of the part changed, under the application of a common poultice, to a pale red, and the surface assumed a granulating appearance. The discharge was always very small in quantity. The projecting part was destroyed by the repeated use of lunar caustic, a cicatrix ensued, and the man was discharged from the hospital perfectly cured. This patient's health was constantly good during the whole progress of the disorder, and he felt no pain after the skin had given way. He had lost all venereal appetite since the left testicle began to swell.

CASE VI.—THOMAS ARMSTEAD, aged 29, of Wild-street, Lincoln's-Inn Fields, was kicked on the right testis by a bullock. The part swelled to a size larger than that of a fist, and grew extremely hard and painful. After two months the skin became gradually thinner, and then gave way; a fungus at the same time protruding. No matter escaped when the skin burst; and the pain at this time entirely ceased. He applied to a surgeon of my acquaintance, who asked my opinion on the case, stating, at the same time, that he thought I should have no hesitation in agreeing with him, that castration would be the proper practice. Having stated my opinions on the subject to this gentleman, he employed various caustic applications, which gave him no pain, and were not indeed felt by the patient, when confined to the fungus. The excrescence did not seem to diminish under this treatment, as a fresh growth supplied the place of what was destroyed. These means were therefore discontinued, and sticking-plaster was applied in order to make as much pressure as the nature of the part would admit of. This plan was soon attended with complete success, and the patient remains with a cicatrix firmly attached to what seems, from its situation and size, to be the testicle. The whole progress of this case occupied about ten months.

Case VII.—A man about 50 years of age was admitted into the hospital in September 1804. He received a violent blow on the scrotum from the pummel of a saddle. Great pain, with swelling of both testes, immediately followed the injury. In the course of a month the right side of the scrotum ulcerated, and exposed a hard and chalk-like substance, which was free from pain. He used to pick this off, and even to remove it partially with a knife: bleeding and pain were occasioned when he cut too deep. A druggist furnished him with some red precipitate, which he sprinkled daily on the excrescence. It gradually subsided under this treatment to a level with the integuments, and then cicatrised. The scrotum in the situation of the fungus appeared, at the time of his admission, puckered up; and the testis felt soft and healthy.

After the part had completely healed, the same progress took place on the opposite side; and this fresh attack induced him to seek relief in the hospital. The excrescence, which was of the size of a walnut, subsided in about six weeks under the use of escharotics, and the part healed.

Case VIII.—A man about 40 years of age was taken into the hospital in November 1804. He had received a blow on the testis three months before; but the pain which it occasioned went off in a few minutes.

The part, however, gradually enlarged, and, to use the patient's own phrase, burst through the skin. It discharged considerably, but was attended with no pain in any part of its progress. A solution of the argentum nitratum, gradually increased in strength until it was employed in the proportion of two drams to half an ounce of water, was applied to the excrescence, which shrunk slowly to a level with the scrotum, and then cicatrized.

Case IX.—John Felton was admitted into St Bartholomew's Hospital towards the latter end of 1804. About seven or eight months before this period he had contracted a clap, which was followed by a hernia humoralis. The parts swelled to a great size; the scrotum became quite tight over it, and, according to the patient's own description, the testis burst through the skin. The fungus thus formed was at first very painful when pressed, and bled occasionally; this gradually went off, and the parts remained, with very little change, for nearly six months previous to his admission. When he came to the hospital, the scrotum of the affected side was much indurated, and studded with several small hard knobs. The excrescence was perfectly smooth, and possessed no appearance of granulations; it was small at the base, and expanded from thence to a considerable size: the discharge was about equal in quantity to that of a healthy ulcer, and pressure did not excite any pain. The employment of leeches and cold washes diminished the surrounding indurations, and the chord could then be felt in an enlarged, but not painful state. The argentum nitratum was rubbed daily on the part for some time, but produced very little effect; it generally caused slight pain, and sometimes bleeding. Slices were then cut off from the surface with a knife, and this operation was attended with hemorrhage, but not pain.

The bulk of the tumour still appearing very little less, a strong ligature was tied round its base as tight as it could be drawn. This gave severe pain; in a few hours after sickness came on, with pain in the chord and kidneys. A poultice was prescribed as a local application, and small doses of laudanum on account of the sympathetic irritation. There was still some fever, which yielded to the usual means. In about a week or ten days the fungus, which adhered only by a few fibres, was cut off. Shortly after, however, a substance, having the hardened feel of the former fungus, rose again above the level of the scrotum. The argentum nitratum was applied freely; and topical pressure, by means of sticking-plaster, was exerted to as great a degree as the part would admit of. Under this treatment a perfect cure was soon obtained; the scrotum resumed its natural softness; the tumefaction of the chord subsided; but the testis still seemed rather larger and harder than usual. The patient was seen at the expiration of a year from this time, and the part then continued perfectly well.

II.

Report from "the General Hospital near Nottingham." By JAMES CLARKE, M. D. one of the Physicians to the Charity.

> "The application of a remedy in a disease must likewise be regulated by the various remote and proximate causes producing it, by the constitution of the patient, by his age and habit, by the season of the year, the climate, and other circumstances."
> GREGORY.

THIS just remark of the late celebrated Professor, cannot be too firmly impressed on the mind of the physician. It is also expedient, that he should often examine into the views that guide him in the treatment of diseases, that by this scrutiny he may be enabled to detect and extirpate those theoretical opinions which practice has proved fallacious, and to substitute for them, principles, the result of attentive observation, and liberal inquiry. The mind may be so warped by a beautiful theory, as to become totally insensible to the efforts of nature, which dictates in vain the path that ought to be pursued; her benign exertions not only pass unregarded, but are even too often counteracted, by a practice, the sole result of mere theoretical speculations, without any regard to the constitution or age of the patient, the season or climate, the remote or proximate cause.

In pursuance of the plan already before the public [*], the reporter continues his description of cases, in elucidation of the table of diseases; but he thinks it necessary to mention, that he has adopted the narrative form, in chronic cases, in compliance with the opinion of a learned and much valued friend, who gives the following conclusive reasons: "By adopting this equally authentic and abbreviated form, you will be enabled to bring the point of practice you inculcate more prominently forward, while you gain on that space which the publishers afford you, and have then an opportunity of introducing a greater variety of matter." The reporter is impressed with the conviction, that it is his duty to present a clear statement of facts, some of which will not be admired for their novelty, but valued only for the confirmation they may give to the observations of others; and, to avoid being tedious, he has, in conformity with the opinion of Huxham [†], declined any formal prescription of medicines. The cases of paralysis have been in general consequent on apoplexia;—the following is interesting, from its cause, symptoms, and cure:

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[*] Edinburgh Medical and Surgical Journal, Vol. III. p. 309. Vol. IV. p. 1.
[†] Huxham on Air and Diseases, Vol. I. Preface, p. 31.

JOHN HOLLIWELL, æt. 29, married, watchmaker, came under the care of the reporter, March 24th 1807. Complains of partial loss of motion in the arms, and wholly in the legs; the extremities are much emaciated, without pain, except in the knees when the legs are moved; pulse about 100, moderately full, and soft; belly regular; urine passed with difficulty, and deposits much sediment; no pain in the head; frequent giddiness; skin moist; tongue furred; unpleasant taste; dry cough; moderate appetite; shiverings every night about eleven o'clock, followed by heat about six in the morning, which continues about two hours, and retires gradually without sweating; plenitude of the cutaneous veins; extremities free from rigidity; feels much pain on pressure, about three fingers breadth below the navel; the whole abdomen gives a sensation to the hand of small cords under the integuments, like an injected placenta; fæces always liquid, and of a lightish yellow, mixed with slime.

Relates, that this disease was produced by exposure to very severe cold, on the outside of a stage-coach, when his limbs gradually lost their sensibility, and he fell from the top, but received no apparent injury from the fall. He has continued, for the last four months, in the same state, and has not found any benefit from the medicines he has taken.

Leeches, followed by a blister, were applied to the abdomen; a grain of calomel night and morning, and a purgative was ordered two or three times a-week. In the 1st month, slight ptyalism was produced, and the urgent symptoms wholly removed, as well as some power gained over the extremities.

In the 2d month, the report says he had gained still more command over the extremities, which he attributed to the use of the bath, at 100° Fahrenheit, twice in the week; the calomel has been occasionally omitted, when the mouth became very sore; ten grains of carbonat of ammonia were ordered three times a-day; and the purgative to be continued as before.

July 3d.—Left hand and feet much the same; pulse very feeble, about 86; still some cordy sensation remains in the abdomen; has had three stools this morning, which were very yellow, and gave much pain, with a scalding sensation; urine passed freely, and in proper quantity; sleeps well; tongue furred; always finds relief from the warm bath.

The bath continued; the calomel reduced to half a grain night and morning; a mixture of the precipitated carbonat of *iron* in the day; and the purgative repeated occasionally.

August 3d.—The left hand continuing as useless and as cold as on the first admission, a splint made on the plan recommended by Dr Pemberton * was employed, July 7th, to support the arm and hand, including the elbow and fingers. In four days, he experienced much relief from its use, and in seven days could take his hat from his head, and replace it with more facility than with the right hand.

August 18th.—Complains of great debility; all the remedies except the splint to be omitted; and the bark exhibited three times a-day, with the occasional use of the purgative, which is often necessary, and always produces much relief.

August 27th.—Hands perfectly restored; has walked across the ward with a little assistance; but as he points his toes downwards, and never sets the foot properly down, from the paralytic state of the muscles, his toes are to be supported by strong ligatures put through the upper shoe leather, brought over the shoulders, and fastened by a girdle round the waist: thus, in walking, the toes will be elevated, and the heel placed on the ground. He immediately experienced great relief from this practice. All other remedies were omitted; and, on October 20th, he was *dismissed cured.*

During the latter part of the time this patient remained in the hospital, he could not be prevented from occasional intoxication, when he was permitted to go into the town; he was remonstrated with, and informed of the probability of a return of the disease, if he persisted in that practice. He returns to his former employment.

Chorea shews itself in an almost endless variety of form, with motions unfortunately ludicrous, or extremely distressing. It is the effort of the medical practitioner to employ every mean that may tend as speedily as possible to destroy this morbid irritability †; but he too often fails in his intentions, and benign nature steps in to relieve him of his difficulties, and the patient of a malady which renders life no longer desirable. The favourable termination of the following case, is supposed to have arisen from the remedies employed.

JANE ROBERTS, æt. 14, tambourer, came under the care of the reporter, March 3. 1807. Complains of headach; pyrosis; pain in the stomach and bowels, with soreness on pressure; bad appetite; tongue white; catamenia have not appeared; constant and violent motion of the body, arms, and legs; speech very indistinct; fatuous; sometimes falls down in a state of insensibility; much emaciated; pulse moderately full; belly regular; cannot sleep; in walking, drags the left leg after her.

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* Practical Treatise, p. 156.

† "Sape tamen malum consuetudine ingravescens levioribus causis excitatur, parum cognitis, neque facilè observandis." Conspectus Medicinæ Theoreticæ, Vol. I. p. 212.

These complaints first appeared about four months since, and have gradually increased since. Let her take an emetic early in the morning, and three aperient tonic pills night and morning.

March 12.—Has had several fits since last report, but is now more composed; belly regular. Continue the pills. Let the head be shaved, and a blister applied to the crown. Ten grains of opiate pill (Ph. Lond.) each night at bed-time.

19th.—Much tenesmus; motion as before; drowsiness; less fatuous; debility increased. One ounce of castor oil to be taken immediately, and the medicines to be continued.

21st.—Somewhat better. To take one ounce of common purging mixture each hour, until it operates freely; ten grains of opiate pill each night, and five grains each morning, continuing the other pills.

26th.—After taking six ounces of the purging mixture, three or four dark-coloured stools were procured, mixed with slime, and in them a lumbricus of about twelve inches long. Continue the remedies. Let the whole body be affused with cold water every morning.

April 2d.—Mental faculties much restored; great debility; much motion; feels very cold; belly regular; has used the cold affusion regularly, which is not followed by a glow of heat. Continue the remedies.

23d.—Mental imbecility entirely removed; speech still indistinct; has more power over the voluntary muscles; belly regular; the affusion is followed by a glow of heat. Continue the remedies.

30th.—Speech almost restored; can run better than walk; belly regular; pulse moderately full; skin moist. Continue the remedies.

May 21.—Speech completely restored; walks perfectly steady; gains strength; appetite good; belly regular. Continue the remedies, and use the cold bath in place of the affusion.

26th.—Catamenia adsunt; gains strength. Continue the remedies.

June 4th.—Belly obstinately costive. Repeat the purgation; continue the remedies.

18th.—Convalescent. Omit the opium; continue the aperient tonic pills and the cold bath.

25th.—Catamenia have appeared in a large quantity; some pain in the extremities. Continue the remedies.

July 16.—Some pain in the head; pulse full and hard. Repeat the purgative; continue the pills; omit the cold bath.

30th.—The purging mixture was taken in considerable quantity before it operated, but finally procured several dark coloured fæces, and has been since repeated, and gave immediate relief. Perfectly free from disease. *Dismissed cured.*

At one period, during the treatment of this disease, and for several days, the patient could not lie in bed, or rest in any posture, but was supported in a chair by cords to prevent her falling, from the violent agitation of the body. During this time she never slept.

Dr Darwin does not admit this disease to be a convulsion, because "the patient can at any time lie still in bed [*];" but his observation is by no means general: the case already related is one among many others in contradiction to this opinion. It is true, that during *sleep* the involuntary motions are very much moderated, but the patient starts every few minutes, and when suddenly wakened, experiences a violent attack of the disease; thus it may be justly said, that sleep procures only a remission of the symptoms. In farther confirmation of this observation, the reader is referred to two cases where it is particularly marked [†], and to Dr Hamilton's observations, who remarks, "This convulsive motion is more or less violent, and is constant, except during sleep, when in most instances it ceases altogether [‡]. Dr Darwin recommends every remedy that may tend to restore the associated motions. Nothing appears more suitable to this purpose, than obeying the dictates of nature, the physician's preceptor, by relieving the bowels, by producing temporary sleep, and by invigorating the constitution.

Of the three cases of *palpitatio* noted in the table, one has terminated favourably from the use of purgatives and digitalis; the result of the second is unknown; but the third, a female 57 years of age, married, and a mother, remains at present on the book, although with little expectation of permanent relief. The disease is of some years standing, during which time she has complained more or less of a strong beating near where the abdominal aorta divides into the iliacs; this pulsation can be distinctly felt by placing the hand on the abdomen, and it forcibly elevates the clothes of the patient. It is not at all times equally strong, and sometimes alters its seat a little higher, but of late it has altogether ceased at times during the day. It is not increased, but rather alleviated by exercise, yet greatly augmented by frights, or agitation from any cause. The pulse has always been perfectly regular, and of natural fulness and strength; the pulsation is most troublesome at night, and more particularly when the body is costive. This, with the length of the disease, the temperament and disposition to globus hystericus, much favour the opinion of hysteria, and militate against ascribing the disease to ossification or aneurism. She has taken the digitalis, and lived entirely on vegetable diet, without any advantage, but experienced relief from aperient tonic medicines. At present her bowels are quite regular, her constitutional health much improved, and by her own request omits all medicines.

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[*] Zoonomia, Vol. IV. p. 290.

[†] Edinburgh Med. and Surg. Journal, Vol. I. p. 28.

[‡] Observations on Purgatives, p. 71.

Although only four cases of *pertussis* are marked in the table, it was nevertheless very prevalent in the town. This disease, like others to which infants are liable, appears at the hospital only when the urgent symptoms occur on, or near, the admission day; they were treated in the first stage on the antiphlogistic plan, and in the last by the extract of hops and bark *.

The two cases of *diabetes* may be considered symptomatic; in both the stomach was much disordered, and both were dismissed cured, after taking the usual remedies for dyspepsia, and living on animal food. Nor is this singular, for Dr Willan has given a similar observation †, and Dr Bardsley quotes to the following effect: "Dr Storer of Nottingham mentions, in a letter to Dr Rollo, his not having met with a single instance of diabetes during sixteen years that he had the care of an infirmary (Nottingham), containing upon an average 52 in-patients, and 300 out-patients ‡;" and Heberden says, "vix mihi oblata est occasio videndi ægros viginti quorum morbus appellatus fuit diabetes; et interdum parum recte ad hunc titulum relatus est §." A man applied for relief, labouring under excessive thirst, and very copious discharge of urine, with slight fever, which he had not observed more than a few days; he was in the habit of drinking tea twice a day, and as hot as possible. He was desired to take milk instead of tea, and drink every thing cool; no medicine was exhibited, and he returned in a week perfectly restored.

In the case of *tic douloureux*, the disease was removed by the liberal exhibition of the bark, but returned again in five months, after a long exposure to cold winds. A case in private practice terminated favourably, by the respiration of the nitrous oxyd; but this patient experienced a return of the disease in five or six months.

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* "The infant frame is no longer teazed with a perpetual repetition of emetics, but the inflammatory symptoms of the early stage are properly attended to, and that period being thus shortened, the constitution is more readily restored from the debility induced." Adams on Morbid Poisons, 4to, p. 380.

† Reports, p. 186.

‡ Bardsley's Reports, p. 71.

§ Comment. Morb. p. 124.

Tabes and *Atrophia* are too often produced by the general and shameful abuse of opium, in the form of Godfrey's syrup of poppies, laudanum, or crude opium. A child is no sooner restless from griping, or any other cause, but an opiate is administered. Very few are sensible to what an extent this practice prevails in large manufacturing towns; the druggist's shop is the grand emporium for this deadly poison; nearly half his time is employed in forming or dispensing its compounds: the quantity sold to the poorer class is far beyond the conjecture of those who have not made it an object of inquiry. From a rough estimate, which the reporter has procured from the venders of these articles in this town, he is enabled to affirm, that upwards of 200 lb. of opium, and above 600 pints of Godfrey's cordial, are retailed to the poorer class in the year.

Godfrey's cordial contains $1\frac{1}{4}$ gr. of opium in each ounce of the liquid, which is composed of much essential oil, and sufficient alcohol to suspend it; but the proportion of the opium and the other ingredients vary much, and sometimes the alcohol is not sufficient to dissolve the opium, in consequence of which the liquid at the bottom of the bottle is much more powerful. It is a fact, that this poison is sold here under three or four different proportions, one with twice the quantity of opium to another. It is unnecessary to offer any conjecture as to the result of this discordance; the mortality among infants is here too well known; nor would it be too large a proportion if one-fourth was attributed to the abuse of opium. The present high price of the drug has given some check to the poisoning of infants; but adults who have habituated themselves to its use, will pawn their clothes that they may be enabled to purchase this delectable charm, this momentary balm to all cares and disappointments, which obtunds the faculties and undermines the sentient principle: it becomes, like tea, or the pipe, the great incentive to indolence, and finally brings its votaries to poverty and disease. Some there are, no doubt, who esteem *tea* very salutary, by giving "a temporary excitement, an intellectual and cloudless inebriety;" by awakening that refinement of sensation which intellectual man alone can enjoy; and assert that many lovers of this beverage have lived to a good old age. But these, surely, are no arguments in proof of the salutary effects of tea; for they may, with equal propriety, be applied to vinous or spiritous potations—to the celebrated nervous cordial of the sagaçious Brodum, and even to opium itself. It must be repeated, that it is not against the use, but the abuse of such articles that these remarks are directed. With a fretful or sickly infant, the mother can, with difficulty, perform her portion of work necessary for the maintenance of the family; it may then be easily supposed that any mean will be eagerly sought which may relieve pain and produce rest, without any idea of the melancholy consequences to result from this practice. And "nurses generally keep these medicines by them, to give the children intrusted to their care a pretty large dose at night, in order that they may obtain some rest to themselves*." Instances of this direful practice among hired nurses have fallen under the observation of the reporter; it has been too often his melancholy task to see the convulsed infant expiring in the arms of its cruel and unnatural parent.

"O past all human tolerance, the curse,
The endless torments of a hireling nurse:
If to your children no regard were due,
For your own peace avoid the harpy crew;
A race rapacious, who, with ceaseless strife,
Disturb the stream of calm domestic life†."

The pallid countenance—tremulous, and often convulsive motion—emaciated form—the stupor, timidity, and fretful temper, are too generally attributed to want, neglect, and unhealthy situations. Were this the case, relief might be administered; but the melancholy truth is, "the poison lurks in the veins, and in secret is working, to the gradual destruction of the infant frame."

"What numbers thus, whom length of years had blest,
Untimely fall, by early fate opprest!
Life's cheerful day, ere yet enjoy'd, resign'd—
The dread abuse depopulates mankind‡."

How much is it to be regretted, that a drug which possesses such sovereign qualities, under proper direction, should be at the command of the ignorant, too often to become the bane to mankind.

One of the cases of *Anasarca* presented nothing particular on admission; the symptoms were those usually attendant on the disease, particularly when arising from the abuse of spirits. He was treated with squills and digitalis, and squills and calomel; friction with mercurial ointment on the region of the indurated liver. From very great distension of the penis, it was punctured to let out the fluid; the punctures healed favourably, but the cellular texture soon filled again. The urine was at first passed guttatim, but afterwards about three pints in the 24 hours, and sometimes at least half a pint at one time, by a moderate stream, for many days previous to his *death.*

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* Medical Observer, No. I. p. 53.
† The Nurse, a poem, by Tansillo, translated by Roscoe, p. 57.
‡ Id. p. 71.

On dissection—The *liver* was found of a dark colour, much enlarged, adhering firmly to the parietes of the abdomen and intestines. The urinary bladder thickened and contracted to about the size of a turkey's egg. A stricture was found about three inches from the external orifice of the urethra, which, with difficulty, admitted a very small silver probe; the membrane appeared rather inflamed; the penis and scrotum much distended and gangrenous. The abdomen contained about one gallon of fluid; the pericardium contained about four ounces of fluid. The heart appeared generally enlarged; the anterior ventricle and pulmonary artery full of blood. Both lobes of the lungs were gorged with blood, and were of a dark colour, unhealthy appearance, emphysematous, and firmly adhering to the pleuræ.

Some of the cases of *Hydrothorax* and *Ascites* have been cured, and the others considerably alleviated by the use of digitalis, combined with the acidulous tartrit of potash; a purgative of the compound powder of jalap being interposed once or twice a-week.

One of the cases of *Physconia* was supposed hydatids, contained in a cyst on the convex surface of the left lobe of the liver; it felt like cartilage; might be easily separated from the liver, except at its upper extremity, and gave no pain on considerable pressure. The patient remained in the hospital for a few weeks, until the debility of the stomach and bowels, for the relief of which he entered the house, was removed, and returned in perfect health, without the tumour, which measured 37 inches in circumference, including the abdomen, being in any respect altered.

The following case is rendered very interesting from the unusual appearances detected by dissection.

Sarah Piggan, æt. 3, came under the care of the reporter as an out-patient, February 10th 1807. Is affected with a very considerable tumefaction in the left hypogastric region; the abdomen at this part measures, after fasting some hours, 23 inches in circumference; always lies on the left side; *urine passed freely, and in proper quantity;* belly regular; fæces liquid and small; fevered; appears in pain; extremities much emaciated.

The mother relates, that about seven months since, the child, in climbing up a double-flapped table, fell, and pulled the table on her. About a month after, a swelling was observed in the left side, about the size of an egg, which has been gradually increasing to its present dimensions.—Has taken many medicines, and been blistered without relief.

To take a purgative in the morning, and a grain of cicuta three times a-day; mercurial ointment, with camphor, to be rubbed on the tumour night and morning.

February 19th.—Has passed two very large lumbrici; tumour undiminished. Omit the remedies.

To take six drops of muriated tincture of iron three times a-day, and repeat the purgative.

March 5th.—Has passed a large lumbricus and skins like bursted worms; abdomen 24 inches in circumference. Refuses the medicine. Repeat the purgative, and give twenty drops of chalybeate wine three times a-day.

12th.—Has passed a lumbricus six inches long; tumour undiminished. Repeat the purgative; continue the chalybeate, and apply a blister to the tumour.

19th.—Blister acted well; pain much increased; has not passed any worms; tumour as before; emaciation increased. Omit all medicines.

April 30th.—Gradually sunk under the disease, and *died* in much pain.

Dissection.—The body greatly emaciated; the thorax and abdomen of a livid colour; the left hypochondrium and epigastrium of a reddish hue, with a clearly circumscribed margin, not arising from the blister. The abdomen, including the tumour, measures 24 inches; no morbid appearance within the thorax. The liver, stomach, and pancreas perfectly natural; spleen of a beautiful violet colour; the right kidney perfectly natural. In the seat of the left kidney appeared a large encysted tumour, weighing, when removed from the body, and free from any extraneous substance, five pounds avoirdupois: upon its upper surface, it was covered by the descending colon, which closely adhered to it. The tumour adhered firmly to the diaphragm and peritonæum; the inner surface was of an ash colour, surrounded by a white fatty, or steatomatous substance, soft, and when compressed, effused a fluid and some solid substances, not out of separate cysts, nor resembling hydatids. There was not any internal cavity; no collection of fluid; no appearance of the natural organization of the kidney.

This was, in the first instance, considered as a disease of the spleen, from its situation and the general symptoms; but when worms were evacuated, it was rendered doubtful how far the tumefaction might arise, in a great measure, from a large collection of these animals with their nidus. The constant secretion and regular discharge of urine, with the absence of other symptoms, invalidated the conjecture as to the disease being in the kidney.

It is, nevertheless, well known that one kidney is capable of producing a regular and sufficient secretion of urine, while the other may be obliterated by disease. The child was brought from the country very irregularly to the hospital; and the parents, from a common anxiety and timidity, tried any remedy that might be recommended to remove the disease.

Icterus arises from causes which sometimes render the disease very obscure, and when combined with fever, very dangerous: The following case is particularly worthy of detail.

THOMAS JAMES, æt. 16, frame-worker, came under the care of the reporter, as an in-patient, January 26th, 1807.

Complains of considerable tumefaction of the glands of the neck, with a general disposition to enlargement of the glands; headach; unpleasant taste; thirst; pain in the right hypochondriac region; fevered; cough, but little expectoration; colliquative sweats; pulse small and quick; belly regular; urines freely; much emaciated; scrofulous habit.

Relates, that he does not know any cause for these complaints, which have been present a year; he has been close confined to his work in the frame.

Take one grain of calomel, and two of hyoscyamus, night and morning, and rub each night and morning mercurial ointment on the tumour.

February 2d.—Tumour diminished about an inch, and separated into three or four distinct portions; belly regular; gums sore. Omit the pills and ointment; take fifteen drops of the tincture of hops three times a-day; and apply a plaster of ammoniac and mercury to the tumour.

4th.—Much nausea and vomiting, with strong febrile action; countenance yellowish; tunica adnata of a yellowish hue. Omit the remedies, and take a purgative.

5th.—Purgative operated freely; countenance the same; complains of pain on pressing the liver; food excites immediate vomiting; urine high coloured; pulse feeble, and very quick. Take a saline effervescing draught three times a-day.

7th.—Pain on pressing the liver much increased; pulse 120, sharp and small; vomits when erect; takes no nourishment; diarrhœa; fæces resemble grumous blood. Continue the medicine, and take ten drops of tincture of digitalis every three hours.

9th.—Sickness moderated; diarrhœa continues; fæces less bloody; pulse 120, moderately full, and more soft; skin of a pungent heat, and suffused with a golden yellow colour; cheeks of a hectic flush; less pain on pressing the liver; cannot sleep on the right side; centre of the tongue covered with a brownish yellow list. Continue the draughts; repeat the purgative; and take fifteen drops of digitalis every three hours.

11th.—Diarrhœa and vomiting continue; cannot retain any food on his stomach; less heat of skin; pulse 102, less full; tongue covered with a whitish crust; has had repeated shiverings; much troubled with hiccup; sleeps a little; fæces less tinged with blood; urine appears bloody. Omit the digitalis; continue the draughts; and take ten drops of tincture of opium every three hours. Let a blister be applied to the pit of the stomach.

13th.—The blister has arrested the vomiting; pulse 116, moderately full; four evacuations; fæces *yellowish*, and without any tinge of blood; urine as before; less pungent heat; slept a little. Omit the opiate; continue the draughts.

14th.—Has had several stools, and some vomiting; in other respects, as before. Repeat the opiate, and continue the draughts.

15th.—Diarrhœa continues; no vomiting; has passed a lumbricus six inches long; much irritation of the skin; some appetite; has slept a little in the night, and during the day; pulse 100, moderately full. Omit the medicines. It was agreed, in a consultation with the physician extraordinary, to exhibit two drams of nitric acid in the course of the day, and three grains of the opiate pill every fourth hour.

17th.—Pulse 120, hard, cordy, and full; skin hot; no vomiting; three stools during the night; yellowness undiminished; has taken an egg this morning. About four ounces of blood were taken from the arm; after which the pulse became quicker, and not more soft. It was agreed in consultation to repeat the saline effervescing medicine, and to exhibit one grain of calomel and opium each night; omitting the acid and former opiate.

18th.—No buff on the blood; pulse 108, more soft, but moderately full; slept better; has not had a stool since last night; wishes for eggs. Continue the medicines; and let him have an egg.

19th.—Pulse 130; skin more clear; has had three yellowish stools; no vomiting; fever much moderated; has taken food with appetite; slept three hours; feels easier; less pain on pressing the liver. Continue the remedies, and apply a blister to the right hypochondrium.

23d.—Pulse 120; belly less; purged fæces of a brownish colour; takes food with appetite; less thirst; constantly picking his nose; much heat of skin; slept ill. Continue the remedies, and take a purgative immediately.

28th.—Three stools were produced by the purgative, of a clay colour; fever rather increased; urine high coloured; slept well;

less appetite; great thirst; no cough, no hiccup; tongue covered with a brownish list; blistered part healed. Continue the remedies, and repeat the blister.

March 2d.—Delirious during the whole of yesterday; fever very high; great plenitude of the venous system; belly regular; much stupor; rattling in the throat; passes much urine; great thirst; refuses food. Continue the remedies.

4th.—No rattling in the throat; very incoherent; debility and emaciation much increased; fever undiminished; pulse full and quick; belly costive. Continue the remedies, and repeat the purgative.

5th.—Has had two watery stools; fever somewhat moderated; urine very high coloured; slept better; has eat heartily of bread and cheese. Take one pill night and morning; continue the other remedies.

7th.—Belly costive; in other respects as before. Continue the remedies.

8th.—*Died this morning.*

Dissection.—The body much emaciated; the skin of a deep yellow, but in many parts suffused with ecchymosis, either in spots or blotches.

The *lungs* were found morbid, much discoloured, but not tuberculous; about six ounces of fluid in each sac of the *pleura;* about three ounces of fluid in the *pericardium;* the *heart* natural; the *liver* much enlarged, and thickened, of a dark colour, but not indurated; the *gall-bladder* full of a fluid, apparently of a nature between lymph and pus, but not containing any bile; the external appearance of the gall-bladder natural; but on an accurate examination, the orifice of the *cystic duct* was entirely obliterated; not a vestige remained internally, to point out its former course. The duct externally was of the usual appearance, entering the common duct, and opening into the duodenum. On retracing this duct, the hepatic was very distinct, as far as its entrance into the liver, but could not be traced any farther. The *descending colon* was for some length much contracted; the *left kidney* divided into two distinct lobes, rested upon the iliacs at their bifurcation from the aorta; the *right kidney* natural; the *spleen* unusually large, and dark coloured; the *pancreas* adhered strongly to the duodenum; the peritonæum had an inflammatory appearance; some ounces of fluid escaped from the abdomen.—This dissection is particularly interesting, as presenting the complete obliteration of a duct by inflammation, which is so unusual, as to have called forth the following observation from Dr Baillie: "It has only occurred to myself to have seen an instance of obliteration in the ductus cysticus; but Dr Storer of Nottingham, whose ability and industry in his profession are well known, has favoured me with an account of two cases of obliteration at the end of the ductus communis choledochus*." The bile in the case of James must, as soon as secreted, have passed into the duodenum, and probably produced that irregular state of the bowels, which attended the latter part of the disease. The irritation of the skin, which is one of the most distressing symptoms in icterus, and for which all remedies little avail, disappears only with the idiopathic disease; it did not, in this case, excite much inconvenience. The itching of the nostrils was considered symptomatic of irritation of the intestinal canal.

Dysuria calculosa includes all cases from gravel, or small calculi, not to be felt by the sound, but capable of exciting difficult, and sometimes painful micturition. Some were treated by alkalies, upon the plan recommended by Dr Beddoes; others by the mineral acids. In one instance, the patient passed very considerable quantities of calculi, about the size of a common pin's head, and of a greyish colour. Their solution was attempted in the pure and carbonated alkalies; and in the mineral acids, the muriatic only dissolved any quantity. Since these experiments, the patient has found relief, by taking this acid. In another case, the man had been operated upon about ten years since, when a moderate sized stone was extracted. He was sounded this time, but no calculus discovered; but shortly after, on experiencing a violent cutting pain in passing urine, he was directed to take one grain of opium; it moderated the pain, and, at the next effort to pass urine, he voided a stone, .700 in length, .375 long diameter, and .312 short diameter, weighing nearly 23 grains: He afterwards died of strangulated hernia, for which he did not seek assistance, until too late, for successful reduction, and refused to submit to the operation. The relatives would not give permission to an examination of the body.

Strictures in the urethra are treated by the elastic gum, or the caustic bougie of Home, according to the nature of the disease: In the cases that have fallen under the observation of the reporter, whenever the caustic bougie had been effectually employed, a paroxysm of fever speedily followed, which, when the patient was of an irritable habit, was attended with violent symptoms. These paroxysms have, in some constitutions, followed every employment of the caustic, although used with the greatest caution. Mr Home gives four good cases, descriptive of this irritative fever†.

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* Morbid Anatomy, p. 240.

† Home's Practical Observations, Vol. I. p. 183.

Amenorrhœa (chlorosis) is treated by tonics, combined with drastic purgatives, and almost always terminates favourably. It is sometimes found necessary to assist these medicines by the pediluvium, and, in some instances, by the cold bath; but great reliance is placed on purgatives. Experience has proved the truth of the doctrine inculcated by Dr Hamilton, who remarks,—"Scarcely had I begun the exhibition of purgative medicines in chlorosis, when I had the satisfaction to find, that the opinion which I had formed of them was well founded, and that they proved at once safe and quickly salutary*."

Some remarks may justly be expected on *bronchocele.* Our knowledge of the disease is very slight; our treatment successful only in the early stages. It chiefly afflicts one sex; out of the 13 noted in the table, 12 were females. Dogs are also liable to this disease. Bronchocele has been considered under six varieties†; the enlargement of the lymphatic glands, the enlargement of the thyroid gland, and the tumour from condensed cellular substance, often occupying both sides of the trachea, are those which will be considered here. The disease is prevalent in this county, and not a few instances of it are found in persons who have constantly resided in this town;—this remark applies equally to the three varieties just stated. It has by some been attributed to an earthy impregnation of the water in common use. To this opinion the following objections offer themselves.—1. The water of Derbyshire, in districts where this disease is considered endemic, contains much supercarbonat of lime; but that in common use here is impregnated with sulfat of lime.—2. Abstinence from water unboiled does not diminish or interrupt the gradual progress of the disease.—3. Patients are cured of the disease, who still continue to drink water from the same source as before, without taking any precaution, as boiling, &c.—4. The disease is seldom found among men.—5. Many instances may be related of a swelling in the neck, sometimes very painful, and generally termed bronchocele, produced very suddenly, by difficult parturition, violent coughing, or any other unusually powerful effort.

To the theory that attributes bronchocele to the use of snow-water, many of the above objections stand in full force; with this addition, that "In Greenland, where snow-water is commonly used, these unsightly protuberances are never met with; nor did I ever see one of them in Westmoreland, where we have higher mountains, and more snow, than they have in Derbyshire,

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* Observations, p. 104.

† Bell's System of Surgery.

shire, in which county they are very common. But what puts the matter beyond a doubt, is, that these wens are common in Sumatra, where there is no snow during any part of the year *."

In a woman who has been the subject of this disease some years, the tumour is supposed to be equal to six pounds weight, and is increasing. She alleges that it was produced by violent exertions in several tedious and dangerous labours, being the mother of nine children. She brings her daughter, about eleven years of age, to the hospital. On both sides of the trachea in this girl, in the situation of the jugular glands, are moveable tumours fully as large as an egg, painful on pressure; pulse feeble; in other respects in apparent good health. The mother states, that the water they drink is in general boiled, in compliance with a caution she had received some years before. The disease in this instance, and in most of the others, was removed by the steady use of the compound plaster of ammoniac and mercury, conjoined with the internal exhibition of the burnt sponge, and occasional purgatives. One variety of the disease bears a strong affinity to scrofula, and is by many observing practitioners considered hereditary. It is not in this country combined with mental imbecility; the woman above mentioned appeared to possess ability very superior to her situation in life. From what has been said, the following conclusions may be drawn: 1. That there are several varieties of this disease, which may arise from different causes; 2. That we are ignorant of the exciting causes of this disease; 3. That the proximate cause is entirely conjectural; 4. and that our treatment by the burnt sponge is little better than empirical.

The following case requires a full detail of symptoms:

Ann Dewick, æt. 22. married, 7 months advanced in pregnancy, was brought into the hospital on the 23d of January 1807, at eleven at night. The attendants report, that she had fallen backwards in going down stairs, and cut her head against one of the steps. On examination, a small but deep wound was found at the back of the head, a little above the posterior tuberosity of the occipital bone; no fracture or depression could be discovered. She had some vomiting on her way to the hospital, followed by much stupor and insensibility, supposed to arise from intoxication, and continued in that state during the night.

January 25th.—Refused to be bled yesterday, or take medicine; stupor continues; pulse 80, hard and full; complained of

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* Watson's Chemical Essays, Vol. 2. p. 157.

of pain in the head during the night; no stool since admission. Twenty-eight ounces of blood to be taken from the arm; eight grains of calomel, with a purging draught, to be exhibited immediately.

26th.—Appeared better after the bleeding, and the pulse became more soft, but at present 90, hard and full; stupor much the same; skin hot; belly open; refuses food. Ten ounces of blood taken from the arm, and six leeches applied to the temples. Repeat the purgatives, and take a saline mixture during the day.

27th.—Again experienced relief from the bleedings;—pulse 90, hard and full; belly open; stupor continues; has felt the fœtus. Continue the mixture; and let more blood be taken from the arm.

28th.—Twelve ounces of blood were drawn from the arm; no amendment. Continue the mixture; let the head be shaved, and bathed with cold water.

29th.—Pulse 100; complains of pain in the head, and refers its seat to the forehead, on which she generally lies, with her hand under it; in other respects the same. Let some blood be drawn from the arm; repeat the purgative; and take twelve drops of tincture of digitalis, with the saline mixture, every three hours.

31st.—(2 P. M.) About twenty-eight ounces of blood was taken from the arm on the 29th; stupor continues; pulse 96, hard and full; belly obstinately costive; slight dyspnœa. Omit the medicine. To take a saline aperient immediately, if necessary; to receive a glyster, and a blister to be applied to the chest. 5 P. M. Pulse 130, hard and full; urgent dyspnœa; perfectly coherent; pupils sensible to light; no squinting; can with facility distinguish time by a watch; complains of the head, and lies by preference on her face, with the forehead on the left hand; when roused from this position, she as speedily as possible returns to it; less stupor, but perfect indifference to external objects. At a consultation of the Medical Faculty of the hospital, it was agreed that the wound should be dilated, to afford room for an accurate examination of the cranium at the seat of injury. A crucial incision was made through the scalp to the occipital bone; the integuments bled very freely; but no fracture, or the slightest depression could be discovered. Four ounces of blood were drawn from the temporal artery, and a purgative exhibited.

February 1st.—Says she has felt much relieved by the division of the scalp; pulse 80; less stupor; belly open. Continue the saline aperient mixture.

2d.—Not so easy as yesterday; pulse 130. Take fifteen drops of tincture of digitalis every three hours, in the saline mixture; repeat the purgative.

3d.—Pulse 130, hard and full; pain in the head; the temporal artery not bleeding freely. Twenty ounces of blood were taken from the arm; and twenty drops of tincture of digitalis to be exhibited every three hours.

4th.—Aborted this morning. The fœces and placenta came away very suddenly together, since which she has sunk rapidly. Pulse feeble and indistinct; dyspnœa much increased. Omit the remedies. To take a dose of cordial mixture and red wine often.

February 5th.—*Died* this morning in much pain. *Dissection.* No part of the *scalp* was separated from the pericranium, except at the external wound. The *pericranium* adhered to the cranium; the *dura mater* possessed its natural connection to the cranium; the *blood-vessels* on the posterior lobes of the cerebrum fully injected; the *left anterior lobe of the cerebrum,* directly over the orbital plate of the frontal bone, and contiguous to the crista galli, was much *lacerated*, and presented a *cavity* about the size of a large pigeon's egg, in the substance of the cerebrum, distended with *coagulum*; the *ventricles* and *cerebellum* natural.

The friends who brought this patient to the hospital were intoxicated, and could give but a very incorrect account of the accident. They admitted she had been drinking with them, but positively denied that she was inebriated. She was a corpulent woman, with a short neck, full chest, and other marks of apoplectic constitution: nevertheless, the appearance on dissection was that usual in contre-coup, or concussion, and this might have been connected with fracture of the cranium. Had this been the case, the operation of trepanning could have been of no avail towards removing the disease.

This Report will now be concluded, by some practical remarks on a few remedies employed in the practice of the hospital.

Arsenias potassæ, has been used as a tonic in arthrodynia, and cutaneous diseases, with much advantage. It ought to be administered with the greatest caution, and not continued for any great length of time, as it is supposed, like the preparations of lead, to accumulate in the system, and finally produce very serious effects, as constant griping pain in the bowels, and paralysis of the limbs, have plainly testified.

Arbutus uva ursi, has been found serviceable in ulceration, and other diseases of the kidney and ordinary passages. It has been employed in phthisis, combined with bark and opium, as recommended by Dr Bourne * without any favourable result, but generally followed by an augmentation of the dyspnœa and cough, with pains in the chest.

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* Cases on Pulmonary Consumption, &c.

Digitalis purpurea. The very great power of this plant has shewn itself in some cases, where half a grain has produced those serious effects well known to arise from an over dose, and soonest removed by brandy, or other spirit, diluted with a small portion of water; in others, one grain at a dose in the first instance, has not produced any sensible effect. Dr Hamilton's remarks on digitalis * well merit attention. He is of opinion that digitalis is inefficacious in the early stage of all diseases purely inflammatory. He considers it very useful in phthisis, and a complete specific in the early stage of dyspnœa aquosa and hydrothorax, but strongly recommends long intervals between the doses. This ought to be strictly observed; a proper dose given at long intervals, is attended with much greater advantage than a small dose often repeated. It is nevertheless highly necessary to commence with a small dose, and carefully increase it, preserving the intervals until some marks of its efficacy appears. Great attention should be paid to the drying of this plant. It is better kept in leaves, excluded from the air, and reduced to powder by a small portion at one time; by which means it does not lose any of its power. It is much to be regretted, that since this plant was brought into practice, there have been so many receipts for the preparation of the infusion and tincture; the latter has been varied at the whim of every physician. There is now a formula in the Edinburgh New Dispensatory, which affords a medicine of equal strength. It is a matter of much importance that such a one should be generally followed, to prevent those disappointments and serious evils which have occurred. In this town it is prescribed by different receipts, one not above half the strength of another: this example, it is to be hoped, will be sufficient to call the attention of practitioners to so important a subject.

Hyoscyamus niger is a very desirable addition to the class narcotics. It is often employed where opium cannot be taken; it acts as an aperient, and is on this account advantageously combined with opium. But it is likewise a remedy of the greatest utility in irritable constitutions, where opium would produce dry tongue, thirst, headach, pervigilium, and fever; but the inspissated juice of this plant acts in these constitutions like a charm, removes morbid irritability, and produces refreshing sleep.

Extractum papaveris albi, may very often be substituted for opium. The price to which this drug is now advanced, renders it desirable to lessen the consumption in public charities as much as possible, and to direct the attention of medical men to this useful substitute. By careful cultivation, the poppy in this country may be brought to yield an extract, if not an opium, very little inferior to the narcotic juice of the Asiatic plant. This has been attempted with success *; but the variable state of the weather in our climate, about the time of the poppy harvest, when the ripeness of the plant is such, that one wet night, it is said, will materially damage, if not destroy, the whole crop, is so much hazard, that few men are found speculative enough to cultivate it to any extent. Those that are engaged in this species of agriculture, too often pay no attention to the plant during its growth, having so repeatedly been deprived of the just reward of their attention, by an accident which they cannot obviate, or, at the present price of opium, a successful harvest of poppies would prove a lucrative concern.

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* Essay on Digitalis.

Humulus lupulus, although not so powerful as the poppy, is yet by no means insignificant, and very serviceable in cases where it is wished to combine a tonic with a narcotic power, as in the second stage of pertussis, &c.

Carbonas ferri præcipitatus. This tonic possesses very great advantages over the sulfas ferri, which sometimes, even in small doses, produces griping pain in the bowels, probably from being carelessly prepared. The precipitated iron forms an elegant and safe medicine, and is willingly taken by children, when mixed with treacle.

Oxidum bismuthi album requires very little comment; its virtues have already been fully considered †. It is only necessary to remark here, that it completely supports the favourable opinion already advanced of its efficacy in gastrodynia and asthenia, and must be considered a very valuable addition to the Materia Medica.

Phosphas ferri et phosphas ferri oxygenatus have been much extolled by Mr Carmichael ‡ and others, in cancer. They have been tried in one case, very favourable for the experiment, but without success; on the contrary, they were quite inert, the ulcers, which much resembled the fungus hæmatodes, was cured by the application of the oxyd of arsenic, combined with the oxymuriat of mercury; yet it would not be fair to draw any conclusion of the result of a practice from a solitary case.

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* Duncan's Edinburgh New Dispensatory.

† Edinburgh Medical and Surgical Journal, Vol. IV. p. 12.

‡ Essay on the Effects of Carbonat of Iron on Cancer.

Tinctura cantharidum has been, in many instances, successfully prescribed in eneuresis; and since Mr Roberton's remarks * on its efficacy in gonorrhœa pura, or gleet, and leucorrhœa, it has been found in some few cases very useful in removing these obstinate affections.

Nottingham, February 10th 1808.

III.

Memoire sur la Mortification de la Cornée. Par J. P. Maunoir de Genéve. Translated and communicated by Dr de Roches.

Among the strongest objections that can be urged against the operation of the cataract by extraction, we may consider that dreadful inflammation which takes place on the next day after the operation, unattended at first with violent pains, but which, nevertheless, announces to an experienced practitioner, that the eye is lost, whatever means he may employ to the contrary. That singular species of inflammation, which has been observed by the most skilful oculists, in cases where the operation had been apparently well performed, and the patient's general constitution was good, has justly puzzled them; since hitherto nothing could teach them how to foresee it, much less how to find out a remedy. A pretty certain sign of its existence, is a copious flow of a watery fluid through the eye-lids, which are closed and tumefied, combined with inability on the part of the patient to distinguish night from day, (whereas every one knows, that an eye operated for the cataract, which is to recover its sight, is able, though entirely closed, to distinguish light from darkness); the patient also frequently feels pains in the temple, or along the eye-brow of the operated side. Upon examining the eye itself, the conjunctiva is found red and swelled, being elevated above the cornea, which is itself opaque, and of a yellowish white, much approaching to the colour of pus, so as to induce a belief, that that colour is communicated to it by an accumulation of purulent matter in the interstices of its laminæ, or in the anterior chamber of the eye. The Baron de Wenzel seems, indeed, to be of opinion, that this circumstance is a constant attendant of the complaint;

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* Remarks on the Use of Cantharides in Gleet.

complaint. He expresses himself as follows: "The most formidable accident in the operation of extracting the cataract, is a violent inflammation of the globe of the eye, during the continuance of which the conjunctiva becomes considerably inflamed, and the eye immersed in a large quantity of acrid matter. In consequence of this, the cornea not unfrequently becomes opaque, and purulent matter is collected behind it, the matter being sometimes found in both chambers of the aqueous humour; and from this cause, the patient suffers excessive and incessant pain. If the remedies that are usually directed in cases of inflammation, both those which are more general, and those which are particularly adapted to such cases, be insufficient to produce an absorption of the matter, (which indeed too often happens), the case is hopeless, and the pain will not cease until the suppuration is complete, and the eye sunk and lost. I am not aware of any assignable cause for this melancholy accident, unless it be owing to a vitiated state of the humours in the patient's general habit, or to some local defect in the original structure of the eye. But be this as it may, I am happy to subjoin, that it very seldom occurs in the course of our practice." (Ware's Translation.)

As the inflammation advances, the conjunctiva increases in size; the eye-lids cannot contain the whole eye-ball, and remain half open; the pains become every day more intolerable, and the disease terminates at length in the sinking of the eye, with scarcely any appearance of suppuration. The size of the cornea is always reduced to 1-4th or 1-3d of its original extent; but that small portion which has escaped destruction, generally preserves its transparency, and part of the iris may be seen behind, serving it as a resting place. The patient seldom recovers the power of distinguishing night from day; when, however, that happens, an artificial pupil may be tried. I do not know, whether any author has considered this inflammation under a different point of view from that of the Baron de Wenzel, all seeming to look for an hypopion. Richter says, "Inter hæc artis auxilia benè administrata rarò hanc operationem sequitur hypopium; sique sequitur, periculum quod adfert tantùm non est ut omnem spem recuperandi visum extinguat, modò tempestivum et dexterum auxilium feratur: Annunciant ortum hypopii dolorum vehementiorum remissio, albus ponè corneam color, aut sensus pressionis in oculo sensim molestissimus. Eas vel in camera oculi anteriori vel in posteriori hæret."

So violent an inflammation may, no doubt, occasionally terminate in the suppuration of a part, or even of the whole of the eye-ball; but I cannot think, that, in the commencement of the complaint, when the cornea assumes a colour, as if it covered purulent matter, that matter does actually exist, and experience seems to support this opinion; for pus, under these circumstances, is never poured out, as in the case of the true hypopion. "Factâ cornea incisione," says Richter, "guttula puris cum pauxillo humori aquei spontè plerumquè statim prodit, quâ elapsâ oculum confestim obtego," &c. He lets out another drop after an interval of six hours, and so forth; but notwithstanding the egress of those drops of pus, mixed with the aqueous humour, the cornea does not recover its transparency; all the circumstances continue, the progress of the malady being nowise altered. Such a small drop of pus is a very trifling circumstance in the history of so formidable a complaint; it is an inconsiderable effect of a great efficient cause. The opacity and whitish colour of the cornea, which are observed so early as next day after the operation, the complete insensibility of that membrane, the remarkable diminution of its size, after the termination of the disease, while the sclerotic coat remains entire, are so many concurring proofs, that the inflammation, which now occupies our attention, is produced by the gangrene of part of the cornea; that the duration of that cruel complaint, is owing to the tenacity and strength of that tunic, the mortified portions of which separate slowly, and with difficulty, from the living; that it is consequently very useless to make an incision through that membrane, since the reunion of the lips of the original wound cannot take place; and lastly, that the drop of pus, which is so difficultly obtained, comes from the ulcerated margins of that living portion of the cornea, which separates from the dead.

I therefore think, that when the hypopion has been cured by an incision through the cornea, the complaint could not be considered as a consequence of the operation of extracting the cataract, since it took place when the lips of the wound were already perfectly united, many days therefore after the operation; whereas, I am here speaking only of the formidable inflammation which follows it almost immediately.

If the progress and result of that inflammation leave no doubt as to the reality of a mortification in a portion of the cornea, and no means have been devised to shorten the complaint which it occasions, let us endeavour, at least, to find out the cause of the accident, either in the habit of the patient, or in the manner of performing the operation. In October 1799, I operated on the right eye of Monsieur D. T. C. aged 70. The incision through the cornea was well made and regular, but rather small, if we attend to the rules laid down in the best books of surgery; it included 5-12ths only of the circumference of the cornea; the crystalline came out slowly, and with a well marked friction against the lips of the wound. The recovery of Monsieur D. T. C. notwithstanding a strong disposition to the ague, for which he used the cortex Peruv. was rapid; the shape of the pupil remained unchanged, and he has continued to see sufficiently well with that eye, to read newspapers and other very small prints. Three years afterwards, Monsieur D. T. C. wished to recover also the sight of the left eye, which was obstructed by a complete cataract; his health was good, and the season favourable, in April 1801: the success of the operation appeared certain. The eye of Monsieur D. T. C. was so steady, and easy to operate, that I could with facility conform myself to the common rule. I made a semicircular incision, which occupied rather more than half the circumference of the cornea; the crystalline came out readily; the patient had suffered no pain during the operation; he distinguished clearly, with the operated eye, all the objects around him; the appearance of the eye was fine; and I declared, what I then firmly believed, that Monsieur D. T. C. would be well in the space of a few days.

Next day, however, I was sadly undeceived; the eye had been watery through the night, and the eye-lids were already swollen; the patient could not distinguish night from day. On raising the eye-lids, I found the cornea of a yellowish opaque white, and the conjunctiva was red. Bloodletting, general and topical, blisters, opening medicines, every thing was used, without success. The inflammation advanced rapidly, continued a month, and left the eye diminished by half its bulk, in consequence of the loss of a large portion of the vitreous humour, and of the destruction of three-fourths of the cornea. The remaining fourth preserved its transparency, and behind it may be seen a small portion of the iris, of its natural colour. The sclerotica is entire, but wrinkled and sunk.

I had extracted some time before, in October 1801, a cataract from the right eye of Monsieur Alaman, aged 56; the operation was easily performed; the incision perfectly semicircular, making a little more than half the circumference of the cornea. I was in hopes that the recovery would be rapid; but on the day that followed the operation, the eye was painful and swelled, the cornea was white and opaque, resembling that of Monsieur D. T. C., and the progress of the complaint was in other respects the same. I must only observe, that I found no pus until many days after the commencement of the inflammation, that it was very scanty, and that the wound was never entirely closed.

I then began to suspect the true cause of this melancholy accident; since the last, however, I performed several operations of extraction, all of which succeeded, although there were in the number two cases of *staphyloma*, or hernia of the iris, protruding through the wounded cornea; one of which I cured by the excision of the protruding portion, and the other by touching and destroying it with the *lapis infernalis.* Such an accident, which had not proved a cause of gangrenous inflammation, which had not even impeded the cure, and the success of the operation, tended to confirm me in my opinion of the cause of the mortification of the cornea; which was further warranted by another similar observation that occurred to me about the same time. Every thing seemed to favour the success of the operation, but the incision was large, amounting to more than half of the circumference. Although the bystanders did not entertain a doubt of a favourable issue, I was not so confident myself, and said that nothing could be decided before 24 or 30 hours had elapsed. This unfortunately proved too true, for on the next day the cornea had become opaque and white, and this eye shared the fate of the two other.

It is evident that the accident, which we are considering, has constantly happened after operations where the incision of the cornea was too large; but I do not remember that it ever occurred to me when the incision was made too small; consequently, its sole cause must be the strict observance of a precept repeated in all the books that treat of the operation for the cataract; viz. "*To make a large incision through the cornea, an incision extending beyond half the circumference of that membrane.*"

But why should a large incision produce a mortification of the cornea? Why does that accident so rarely happen, while a large incision is so strongly recommended by oculists? Is the rule not generally attended to in their operations? I answer, that it is more difficult than is commonly supposed, to make an incision perfectly semicircular which surpasses the half circumference of the cornea; and that whenever the section of that half circumference has been regularly made, there will be a very large opening, quite sufficient to allow a free passage to the largest crystalline; the operator, therefore, will not go beyond it: it even frequently happens, that the motion of the eye becomes an obstacle to the incision reaching quite the half circumference, and, nevertheless, the operation succeeds. Whereas if, what but seldom happens, the eye is so easy to operate on, that the incision can be carried to 7-12ths of the cornea, the reunion of the divided parts does not take place, and the separated portion of the cornea dies away. If we examine the structure of the cornea, we shall find in the nature of its organization the reasons of this fact. The cornea is not a continuation of the sclerotic coat, for they may be easily separated by maceration. Its transparency depends on the extreme minuteness of its vessels; and the nerves which make it a living membrane are likewise so attenuate, that the most skilful anatomists have not been able to trace them in its texture. Nobody, however, has denied the existence of either; the vascularity of the cornea becoming evident to the eye in common inflammations of the conjunctiva, and its sensibility being a sufficient proof of its being supplied with nerves. But it seems that the cornea receives such a supply of fluid and nervous energy, as is barely sufficient to support its life; if, therefore, we make too large an incision through it, we destroy too many of those vessels and nerves, for the divided portion of the cornea to be sufficiently nourished and supported by the vascularity and the nervous energy of the undivided part. The cornea accordingly turns white and opaque, and dies away in all that part which wants a sufficient quantity of fluid to maintain its transparency and life; but, under such circumstances, the unfavourable symptoms will always appear on the day that follows the operation.

I hope that the experience of other oculists will confirm the truth of this theory, which, I confess, I do not consider as a mere hypothesis, but rather as a doctrine firmly established on some positive facts, and many negative proofs. Since I have been aware of the bad effects of a large incision of the cornea, in producing mortification, I have constantly avoided making it above the half circumference; it has, indeed, generally been under it, and from that moment I have never met with this accident.

IV.

Some Observations on the Nature of Inflammation, and its Connexion with Fever; communicated in a Letter to Dr Andrew Duncan junior. By Dr A. Philips Wilson.

Dear Sir,

When we consider the frequency and importance of inflammation, whether considered as an idiopathic disease, or as symptomatic of others, it seems surprising that so little has been done to ascertain its nature. Various opinions respecting it, indeed, have at different times been advanced, but nobody, as far as I know, has been at the trouble to ascertain, by direct observation, in what an inflamed differs from a sound part.

It would be a very unprofitable task to enter on any discussion of opinions which were founded on mere hypothesis, and are now abandoned. I shall only observe, as it will be useful in arriving at the conclusions to which the experiments I am about to relate, lead, that obstruction of the minute vessels, which forms the basis of many of these opinions, does not seem capable of producing the phenomena of inflammation. Admitting that the vessels of any part are obstructed, it does not follow, that an accumulation of blood will take place in it; the blood may pass off by anastomosing branches, or the vessels may resist the distending force.

I passed a hot wire through the web of a frog's foot, by which the skin about the hole was shrivelled, and the vessels obstructed, no fluid of any kind being discharged. Here an obstruction was produced, surely more than equal to what can be supposed to take place in many inflammations of small extent, yet no symptom of inflammation followed, every part of the web appearing as pale as before the experiment.

In the following observations, I shall confine myself to the two very opposite opinions which at present divide the medical public of this country; the one, that inflammation arises from an increased, the other from a diminished action of the vessels of the inflamed part. The former of these opinions has long prevailed; the latter, although hints of it are to be found in many writers, and some not of a late date, was first stated in a consistent form by Dr Lubbock and Mr Allen, about the year 1790, though neither of these gentlemen, as far as I know, has published any thing on the subject.

The opinion that inflammation arises from an increased action of the vessels of the part, seems to have been an inference from the increased temperature of an inflamed part. When physicians believed the temperature of the animal body to depend on the friction of the blood against the sides of its vessels, it was a natural inference, that when the temperature of any part was increased, the motion of the blood in that part, the only acknowledged cause of animal temperature, was increased in the same proportion: "A renixu, pulsu, compactu, vasorumque adhuc meabilium angustatione a tumore obstructorum, attritus fit ingens partium liquidi inter se, in solidum, solidi in illas, inde calor et cestus." Aph. Boerhav. 382.

But the velocity of the blood cannot, it is evident, be partially increased, except by an increased action of the vessels of the part. "The phenomena of inflammation," Dr Cullen observes, (First Lines, par. 239.) "all concur in shewing, that *there is an increased impetus of the blood in the part affected;* and as, at the same time, the action of the heart is not always evidently increased,

creased, there is reason to presume, that the increased impetus of the blood in the particular part, is owing especially to the increased action of the vessels of that part itself." Mr Moore, in a paper on the process of nature in filling up cavities, &c. which obtained the prize-medal given by the Lyceum Med. Lond. for 1789, observes, "Inflamed vessels seem likewise to acquire a great deal of additional strength, or, at least, they act with greater energy than formerly; *for the blood is observed to circulate with far greater velocity through an inflamed, than through an uninflamed part.*" Is it not surprising, that physicians should have so decidedly formed their opinion respecting the state of the circulation in an inflamed part, when it is certain that none had been at the trouble to examine it!

It is not difficult to ascertain, by direct experiment, whether an increased action of the vessels of a part occasions the phenomena of inflammation.

Having adapted the web of a frog's foot to the microscope, I now and then, for some minutes, observed the velocity of the circulation, which, during this time, continued, as far as I could judge, the same. I then wetted the foot with distilled spirits, and, in a few seconds, observed the blood in all the vessels of the web moved with a greatly increased velocity, which, as I constantly kept the web moistened with spirits, continued as long as I examined it, about ten minutes, or a quarter of an hour. But, during no part of the time could I observe the slightest symptom of inflammation, either with or without the microscope. The vessels, instead of appearing redder and more turgid, were evidently paler and smaller than before the application of the spirits. I still farther increased the velocity of the circulation in the web, by throwing on it the concentrated rays of the sun from the speculum of the microscope, and still with the same effect.

An excessive application of these agents would unquestionably have deprived the vessels of their excitability, and then the phenomena must have been different. We shall presently see what are the effects of impaired excitability of the capillary vessels. I shall also have occasion to mention other experiments, both on warm and cold-blooded animals, which tend to confirm the result of that just related.

The reader will observe, that it is stated in the foregoing experiment, that when the vessels were preternaturally excited, they appeared paler and smaller than in the healthy state; and, indeed, we can hardly suppose that it should be otherwise, since, from the disposition of the muscular fibres of the vessels, the more powerfully they act, it is evident, the more their capacities must be lessened. From this we might infer, that the more relaxed and debilitated they are, the larger and redder they must appear. But it is very easy to ascertain the state of the circulation in an inflamed part, independently of any reasoning. The following experiments, which are related in the third volume of my treatise on Febrile Diseases, seem sufficient for this purpose.

An inflammation had been excited, I do not know how, in the web of a frog's foot. Having applied it to the microscope, I found the vessels of the part greatly dilated, and the motion of the blood extremely languid. In several places, where the inflammation was greatest, it had ceased altogether. It was at once evident, on observing the part through the miscroscope, that, where the inflammation was greatest, the vessels were most dilated, and the motion of the blood was slowest. The distension of the vessels which, in the healthy state, admit only the colourless parts of the blood, was apparent; for, in the inflamed parts, a much greater number of vessels admitted the red particles than in the sound, and the interstices of the red vessels appeared more opaque, probably from the enlargement of innumerable small vessels, still too small to admit the grosser parts of the blood.

While I was viewing the inflamed web, it occurred, that if I could succeed in stimulating its vessels to action, and thus remove the inflammation, it would afford an additional proof of the inflammation depending on the debility of the vessels.

With this view I wetted the inflamed web with distilled spirits, at the same time throwing upon it the concentrated rays of the sun from the speculum of the microscope. The blood in all the vessels, except in those of the most inflamed part, began to move with greater velocity, and in proportion as this took place, the diameters of the vessels were diminished, the redness became evidently less remarkable, and the interstices of the vessels less opaque.

After I had despaired of restoring action to the most inflamed part, I saw the blood begin to move slowly in a vessel which ran directly through the middle of it. It soon acquired a considerable velocity; and, on taking a superficial view of the part through the microscope, the course of this vessel appeared like a streak of a lighter colour through the middle of the inflamed part.

As I had not observed the inflammation from the commencement in this experiment, I repeated it with the assistance of the Reverend Mr Boraston, on a small fish (the lampern.)

We found that exposure to the air produces a degree of inflammation, evident to the naked eye, in the fins and tail of this fish. On viewing the former through the microscope, we observed the circulation become more languid, and the vessels enlarge as the inflammation came on. The motion of the blood in the most inflamed vessels at length ceased altogether.

By gentle friction, and applying distilled spirits, we repeatedly succeeded in accelerating, and even renewing the motion of the blood; and, in proportion to the velocity of the circulation, the vessels became evidently paler, the deeper red returning as the circulation became more languid.

On roughly irritating a part of the fin where there was no inflammation, the part being pale and the circulation as rapid as natural, the motion of the blood was for a second or two wholly interrupted (Mr Boraston observed the part while I irritated it), the force I used having compressed the vessels. The vis a tergo, however, soon forced the blood into them; and this experiment having been repeated several times, both Mr Boraston and myself saw the now debilitated vessels of the parts which had been irritated, gradually dilated by the blood propelled into them, till the vessels having acquired many times their former dimensions, the parts appeared highly inflamed; the motion of the blood at the same time became extremely languid, and in the most distended vessels ceased altogether. Some, even of these last, we succeeded in exciting to action; and in proportion as the motion of the blood was accelerated the vessels became paler, the inflammation being evidently diminished. In these experiments there was no extravasation of blood except in one instance, in which the vessels were so roughly irritated as to wound some of them.

The foregoing experiments having been made on cold-blooded animals; to obviate any objection which might hence arise, it was necessary to repeat them on an animal of warm blood.

The ear of a very young white rabbit seemed, from its transparency, the most proper subject for such experiments. It was accordingly submitted to the microscope with every advantage of light that could be obtained; but the endeavours both of Mr Boraston and myself, to distinguish the circulation with sufficient accuracy, were fruitless. I therefore made a small opening through the skin and muscles of the abdomen, through which, by the struggles of the animal, a portion of the intestines and mesentery were soon protruded. I then brought part of the latter within the field of the microscope, and gently irritated it with the point of a pair of forceps, while Mr Boraston observed the effects, the account of which I give in his own words. That the reader may be assured that Mr Boraston's account is wholly unbiassed, it is proper to remark, that till after he had described to me what he had observed in this experiment, he was unacquainted with the object I had in view in making it.

" The larger arteries and veins were too opaque to admit of my distinguishing the motion of the blood ; but in the small vessels, which were more transparent, the circulation was easily observable ; and I perceived the globules of the blood moving along with great rapidity, but not in sufficient quantity to give a red colour to the vessels.

" After a few minutes exposure to the air, the vessels became visibly enlarged, and in some parts assumed a reddish colour, while the velocity of the blood was proportionably diminished.

" As soon as a part of the mesentery which lay within the field of observation, and appeared almost colourless, was irritated with the point of a small pair of forceps, a red spot appeared. In a few seconds it increased in size, the adjacent parts of the vessels were distended, and the current of blood becoming less rapid, was for some distance slightly tinged with a red colour. This enlargement of the vessels gradually extended ; the circulation at this time was extremely languid, and at length was not discoverable at all."

In the third volume of my treatise on febrile diseases, the reader will find a plate representing the different stages of inflammation, as viewed through the microscope, from its commencement to its height.

It appears, then, from the foregoing experiments, that the state of the capillaries of an inflamed part is that of preternatural distension and debility. That of the larger vessels may be ascertained without the aid of the microscope. Unassisted by glasses, we readily perceive that they do not suffer a similar distension, and their increased pulsation sufficiently evinces their increased action. Nor is this increase of action so obscure as to be observed with difficulty. I have often, in inflammatory affections of the jaw, applied the finger to the external maxillary arteries, and, in rheumatic affections of the head, to the temporal arteries, and perceived them beating with unusual force.

Such, then, appears, from experiment, to be the state of the vessels of an inflamed part, the capillaries distended and debilitated, the larger arteries excited to increased action. This being ascertained, we find no difficulty in explaining the phenomena of inflammation, the *modus operandi* of its causes, and of the means which relieve it. I shall therefore be excused from entering on every part of this subject ; it will be necessary to make a few observations on it.

The increased temperature of an inflamed part, which seems to have given rise to the prevalent opinion respecting the nature of inflammation, must, as it appears from the late experiments which have thrown so much light on the cause of animal temperature, take place wherever there is a greater than usual accumulation of blood, which has not undergone the process that brings it to the venous state. It may be said, that if the velocity of the blood in an inflamed part be much diminished, it will not sufficiently undergo the change necessary for the evolution of caloric, since it is not sent through the lungs so frequently as the blood supplying parts in which the circulation is more rapid; and if the inflammation be an internal one, we cannot suppose the blood to undergo this change in consequence of any process taking place on the surface. But it appears from a variety of observations, that although the temperature of an inflamed part is increased, any portion of its blood must evolve less caloric than the same quantity of blood in a healthy part.

The experiments of Doctor Crawford, Doctor Fordyce, Mr Hunter, and others, prove, that in proportion as the temperature is increased, the evolution of caloric from the blood is diminished, and that when the temperature is raised but a very little higher than the natural degree, it ceases altogether. Whatever, therefore, be the accumulation of blood in any part, no more caloric can be evolved than is sufficient to raise the temperature to this degree. It is farther to be observed, that although the blood continues to evolve caloric till it arrives at this temperature, yet each portion constantly evolves less the nearer it approaches to it. (See the experiments of Dr Crawford.) It is evident, therefore, that the greater the quantity of blood accumulated in any part, the less is the waste of that principle, whatever it be, by means of which caloric is evolved.

It appears from some experiments of Mr Hunter on the temperature of inflamed parts, that it is much lower than, from what we perceive by the sense of touch in external inflammations, we should be inclined to suppose. Mr Hunter found that it did not at any time exceed the temperature at the heart, so that, according to those experiments, inflammation does not produce a greater evolution of caloric than is capable of raising parts at some distance from this organ, but not immediately exposed to the influence of the air, about one degree. He made his experiments on various animals, the temperature of whose blood at the heart was various.

According to these experiments then, the additional caloric evolved in an inflamed part, making allowance for its increased size, is only 1 in 97 or 98. Now, if we suppose the quantity of blood in an inflamed part to be only double of that in the sound part, and I have no hesitation in saying, from what I have observed with the assistance of the microscope, that it is often at least ten times as much, the waste of that principle by which the blood evolves caloric, must be diminished about one-half, or so nearly one-half that the difference may be overlooked; hence the florid colour of inflamed parts.

It seems probable, however, that Mr Hunter's experiments were not quite accurate. We know that the blood is capable of evolving caloric at rather a higher temperature than that stated by him; but this allowed, the above statement is nearly accurate, the blood certainly ceasing to evolve caloric at a temperature a very few degrees higher.

But may not the rapidity of the circulation, it may be said, be so much lessened as not to be compensated for in this way. When the circulation ceases altogether, as in the most inflamed parts in the foregoing experiments, when consequently there can be no supply of that principle by which caloric is evolved from the blood, what then preserves the increased temperature and florid colour of the part? The increased temperature and florid colour then disappear, the part assumes a purplish hue, and soon dies, that is, becomes gangrenous.

One symptom of inflammation I wish at present particularly to direct the reader's attention to, the increased pulsation of the larger arteries of the inflamed part. The final cause of this symptom is sufficiently evident: As the inflamed vessels are debilitated, an increase of the vis a tergo is at once the means of promoting the circulation in the part, and stimulating the debilitated vessels to action. Thus we find that, wherever the vis a tergo is much diminished, the circulation, in an inflamed part, is apt to fail altogether, and gangrene to supervene, so that we are often obliged to use artificial means to increase it.

The efficient cause of this symptom is also sufficiently evident; the blood no longer passes with its usual freedom, nor are the secretions of an inflamed part perfectly performed. From these causes, there is an accumulation of blood, probably of a more irritating quality than usual, in the larger vessels, which, while they retain their vigour, must necessarily excite them to increased action, being nothing else than an increased application of their natural stimulus. This increased action, when the inflammation is considerable, is propagated along the vessels to the heart, occasioning a general increased action of the sanguiferous system. As we might suppose, à priori, the vessels of internal and vital parts are more easily excited than those of the extremities; hence a slight inflammation of the stomach or brain excites fever, while a more considerable inflammation of the extremities excites only the larger vessels in the neighbourhood of the inflamed part.

On reviewing the phenomena of fever, we shall find them altogether analogous to those of inflammation, and that the experiments which have been related can be applied with the same success to explain them. The symptoms which constitute inflammation are increased heat, redness and swelling, whether attended by pain or not. In the commencement of the hot stage of fever, particularly in strong habits, the whole surface is affected with increased heat, redness, and swelling. Here, then, we know from direct experiment, that the capillaries are debilitated. The more active symptoms of inflammation do not shew themselves, because the whole capillaries being debilitated, the distending bears a small proportion to the resisting force; whereas, in inflammation, the debility of the capillaries being very partial, the resisting bears a small proportion to the distending force.

The hot stage of fever, then, must be regarded as a state of general inflammation, (See my Essay on the Nature of Fever, pages 186 and 187), and the cold stage which precedes it, differs from the hot only in this, that the general debility of the capillaries exists with a debility of the heart and larger vessels, instead of an increased action of these organs, which always, in a short time, supervenes. For as, in inflammation, we observe, that as the capillaries of the part become debilitated, the larger vessels in their neighbourhood are excited to increased action; so, in fever, where the whole capillaries are debilitated, all the larger vessels are, for the same reason, excited to increased action.

It has been said, that there is no proof of the excrementitious parts of the blood, when retained, proving a stimulus to the heart and larger vessels. In reply to this, it may be observed, that in all cases where they are retained, we observe the increased action of the heart and larger vessels; and as this increased action is evidently the means employed to restore the due action of the capillaries, there can be little doubt that the retained excreta are calculated to excite it, and we find that it always continues till they are expelled, or the larger vessels lose their tone. But whether this be admitted or not, the increased volume of blood in the larger vessels, which is the necessary consequence of the impediment opposed to its passage through the capillaries, must apply to them an increased stimulus, and consequently produce the phenomena which constitute the hot stage of fever.

As on the one hand, a debilitated state of the capillaries always produces increased action of the heart and larger vessels, so on the other, increased action of them, if long continued, never fails, from whatever cause it arises, to occasion debility in the capillaries. In my essay on the nature of fever, I had occasion to observe, that when this disease terminates favourably, a degree of general debility remains after its symptoms disappear, but the action of the capillaries is so far restored, that it is in due proportion to the remaining vigour of the heart and larger vessels. In short, what now takes place throughout the system is analogous to what happens during resolution in an inflamed part. The extreme vessels are capable of effecting the necessary changes in the fluids supplied to them by the larger vessels. Thus, even the general debility which succeeds fever is a wise provision of nature; and thus it is, that the debility of the capillaries, and along with it, the fever, is often renewed for some time after it has ceased, by too full a diet, exercise, or any other cause, that increases too much the force of the heart and larger vessels, and thus throws on the capillaries a larger quantity of the fluids than on the first return of their vigour they can easily bear. A full meal, under these circumstances, is often succeeded by a strong pulse and a dry skin.

Now, we observe the same thing in states of health, only the cause must be more powerful, and applied for a greater length of time; much excitement, long kept up by fermented liquors or any other cause, may occasion the symptoms of fever. Thus, in inflammation, when the increased action of the larger vessels extends to the heart, so that the excitement becomes general, a general debility of the capillaries soon ensues, and fever is formed. The disease, then, differs from simple fever only in this, that in the part originally affected, that is, the inflamed part, the capillaries are most debilitated, and consequently, there the inflammation runs highest. From what has just been stated, it seems to be that the hot sometimes precedes the cold stage of fevers.

If it can be shewn that all the phenomena of fever may not only be explained on these principles, but are the necessary consequences of such a state of the circulating system, an additional proof will be afforded of the truth of the opinions I have advanced. For this part of the subject I must refer to my Essay on the Nature of Fever. But permit me to observe, that although those opinions are ill-founded, they cannot be regarded as useless, if they enable us to give a more simple view of the treatment of fever than has hitherto been done. Nothing, indeed, can be more useful to the practitioner than to obtain certain principles that connect together the modes of treatment which have been found most successful. They give readiness and decision, by collecting our knowledge, as it were, into one point, and thus enabling us to review it with ease. I have, in the essay just alluded to, shewn how simple an arrangement the treatment of fever admits of on the above principles, and shall soon, in an edition of my treatise on Febrile Diseases, which I am now engaged in preparing for the press, have an opportunity of entering on this subject at greater length.

It may appear, from the foregoing observations, that I have paid too little attention to the opinions which have been so generally expressed, both in the Medical and other Journals, against my ideas respecting the nature of fever. But as, in the present state of the public opinion on this subject, the reception which my essay has met with is what I looked for, and what I believe a true doctrine of fever would at first experience, I cannot regard it as proving mine to be false. I have, therefore, setting aside the opinions, weighed only the arguments which have been brought against it. These are very light; for the critic has generally satisfied himself with saying, what I by no means pretend to controvert, that to form useless and unfounded hypotheses is to waste time, if not to do worse. To which I can only reply, that I believe my hypothesis is not unfounded, but the necessary inference from experiment and the phenomena of fever; and that, if it is unfounded, it is not useless, for reasons I have just stated. One regular attempt to refute it indeed has been made, in the first number of a medical review lately offered to the public; but the author of the critique is ill acquainted with the subject, and has, in many essential points, mistaken the meaning of the essay he so freely censures. I am even repeatedly accused of having denied the existence of such a power as the *vis medicatrix naturæ!!!* Surely it required no great share of critical accuracy to prevent mistaking *supposed operations* of the vis medicatrix naturæ, for operations of a *supposed vis medicatrix naturæ.* But it is of little consequence to point out one error where there are so many.

To the few arguments which have been brought against my opinions, I have, in this letter, given what appears to me a satisfactory answer *.

Worcester, April 21st, 1808.

V.

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* In order, as much as I could, to disencumber the account of my opinion respecting the nature of fever, I have, in my essay on that subject, thrown into notes a large proportion of the observations which tend to confirm it. These I have found to have been very generally overlooked.

V.

An Instance of Condensed Lungs, related with the View of Inquiring, whether or not this Morbid State ought to be considered as of a Different kind from Inflammation, or other Diseases already distinguished? Communicated to Dr Andrew Duncan, junior. By a Physician at London.

On Saturday evening, April 9th, 1808, a lady, æt. 24 years, after eating her dinner as usual, and being otherwise previously in good health, but in the sixth month of her pregnancy, was seized with pains of the chest, shortness of breath, a little dry cough, and a shivering fit. The complaints of the chest continued all the subsequent night, which was passed in a very restless manner. In the morning, viz. on Sunday, the surgeon called in, and took away eight ounces of blood, which was not buffy; a blistering plaster was applied to the sternum, and a laxative draught was administered. In the evening, at a late hour, I was desired to visit the patient. She then lay upon her back, making exertions for breath, but could lie on neither side without increasing the pain; nor was there any relief from raising the head and thorax. The chief complaints were pain of the right side and want of breath, with debility; but there were no symptoms of inflammation or fever, the tongue having a healthy appearance, the skin not being hot, the pulse being small and quick, the heart, however, beating strongly. Twelve ounces of blood were taken, which, as before, was not buffy, nor became firmly coagulated. A grain of opium, with a quarter of a grain of tartrite of antimony were directed to be administered twice in the night.

Monday morning.—The more urgent symptoms, the pain of the right side and dyspnœa, were much relieved, but still there was a peculiar effort in respiration. The pulse continued very small, and at the rate of 150 beats in each minute. It was thought necessary to open the bowels farther by a laxative medicine, and then to repeat the opium and tartrite of antimony every five hours. Diluent mucilaginous drinks were given frequently, which also were the food of the patient.

Tuesday morning.—The complaints were increased. Efforts were continually made to inspire deeply; pain was felt in the left instead of the right side; the heart pulsated laboriously; the pulse at the wrist was small and quick as before; yet there was no orthopnœa nor increase of pain, or of dyspnœa, on lying on either side, nor was the tongue different in appearance from that of health, but thirst had come on, and extreme anxiety was manifest. Coughing was seldom heard, and there was no expectoration. Blood was again taken away, and another blister plaster was applied. Fomentations were directed to the feet and legs.

Wednesday morning.—The symptoms of impeded transmission of blood through the lungs were very evident, not only from the manner of breathing, but from the lips appearing quite livid and the cheeks bluish; the face was distorted; the pulse could not be counted; the skin was cold and clammy. The senses scarcely remained. A sudden and violent attack of pain of the head had come on, so as to occasion loud calls for relief. There was something very peculiar in this pain, although of short duration: It seemed at once to supersede all other complaints, and I was surprised to find a number of leeches on the temples, which had been directed for immediate relief.

Although there seemed no chance of saving the patient, it was thought right to order blood to be taken from the chest, by scarifying and cupping. The patient now became much exhausted, and lay in apparently a condition unable to speak more than a single word or two occasionally. She miscarried in the afternoon, during her dying state. In about three hours after the miscarriage, death put a period to her sufferings, that was in four days time from the attack of the disorder.

Curiosity was exceedingly excited to ascertain the nature of the above-described disease, and various conjectures were entertained which it would be useless to relate. As, on inquiry, we were told, that on the day the illness began, the muscles of the chest were straitened by the exertion of attempting to reach a parcel, it was conceived to be possible that some large blood-vessel might have been ruptured. It was not reasonable to suppose effusion of lymph or secretion of pus to have occurred, because of the absence of signs of inflammation.

Dissection.—On Thursday, April 14th, on opening the thorax, the lungs appeared not at all collapsed, but were firm like liver or spleen; the right lung was more consolidated than the left. A little semi-transparent, seemingly coagulated lymph, was found adhering to the pleura of the right side; and about eight ounces of water were taken out of the cavities of the chest, especially from the right side. The lungs being cut through in various parts and directions, the air vessels seemed obliterated, so that a very small part only of them floated on water. The right lung throughout was so dense as to sink in water. The colour in the interior was like the surface. There were no tubercles, nor vomicæ,

micæ, nor thickened membranes, nor swelled glands; but the most remarkable appearance was the effusion of a turbid fluid into the trachea, so as to fill it, and which, no doubt, occasioned suffocation. This turbid fluid consisted of *serum, water, slime,* or *mucus,* and some *coagulated masses* of lymph.

There was nothing unusual about the heart, and the foramen ovale was not (as in many cases of diseased lungs) opened. In other parts of the body nothing morbid was seen.

Remarks.—From the propensity to generalize, I know that the above described disease and dissection would be referred to *inflammation.* But on consideration of the phenomena, the characters of inflammation will be found to have been absent. It is true, that effusion of watery fluids, and of coagulated lymph, and condensation, are effects frequently of inflammation; but then these effects are attended by decisive and peculiar signs of inflammation, viz. redness, thickening or enlargement, adhesions, pus, and, previously to death, by symptoms of general, or at least local inflammatory action. In the preceding case, we have neither the symptoms of pleurisy, nor of peripneumony, nor of pneumonia. The pain of the side was more like a supposed spasmodic, than an inflammatory one. Effusion of water, and secretion of slime, are not the effects peculiarly of inflammation, but of various kinds of irritation and obstruction to the circulating fluids. It seems against experience and analogy, that for three or four days inflammation of every part of both lungs should exist, without the symptoms of that disease, and yet sufficient to occasion an universally condensed state of them. Obstruction to the passage of the blood accounts for the effused fluid into the trachea, and into the cavities of the thorax; but what occasioned the consolidated state of the lungs? The consolidated state appears to have been the original disease, not the effect of some other disease; and its occurrence to so great an extent in three or four days, has not, I believe, been seen before. The absence of orthopnœa, of buffy blood, of hard pulse, of white tongue, of expectoration, and but little of cough, or any other particular, distinguish the present disorder from other well known thoracic affections. The rapidity of its progress will not escape attention. The dyspnœa was a peculiar one. The violent attack of peculiar excruciating pains of the head is also remarkable. The state of pregnancy is perhaps to be regarded merely as a casual coincidence, and not as peculiarly connected with the disease. Death immediately by secretion into the trachea, I believe, has frequently been overlooked; it often occurs in infants, and accounts for unexpected deaths.

VI.

History of an Endemic Cynanche Parotidea, on board his Majesty's ship Ardent, on its passage to Monte Video. By ANDREW NOBLE, Surgeon of the Ardent.

CYNANCHE PAROTIDEA is, I believe, not a very common complaint. The following history of its occurring endemically, on board of his Majesty's ship Ardent, while I was surgeon of that ship, may be considered as a subject of some curiosity; I send it, therefore, for insertion in your Journal, should it meet approbation.

On our passage out to Monte Video, in the month of November last, this disease made its appearance. Twelve persons in all were attacked, from the 3d to the 20th of the month. We were at that time entering the trades, the weather was serene and pleasant, the thermometer in the day-time generally about 74°, and no exposure to cold, wet or fatigue, or any other unusual occurrence in these latitudes, had previously taken place, to which the disease could be attributed.

These patients, on making their appearance first complained of pain about the parotid gland of one side, most frequently the left, the whole of that side of the face being very much swelled, and of a bright red colour; this was attended with the sensation of heat, throbbing, and slight febrile symptoms. During the second and third day, the swelling increased considerably, extending over the eye-lid, and down the neck, and the whole had a puffy look; not pitting, but elastic on pressure. Four or five days after the commencement of the complaint, the swelling and other symptoms of inflammation began to subside, and in a day or two more, the patients were surprised, in the morning, to find the whole had suddenly disappeared. But all of them, without a single exception, had now an uneasy feeling in the testicle of the *same side* with the parotid gland which had been inflamed; and, on examination, it appeared just perceptibly larger than the other, and very painful to the touch. The inflammation gradually increased for three or four days more; the testis became extremely painful, enlarging to about three times its natural size; but the epididymis and spermatic cord were not at all affected.

While the inflammation remained in the parotid gland, in five of the cases I judged general blood-letting necessary; and in all of them the bowels were fully opened. To endeavour to prevent the metastasis to the testis, I considerably varied the local treatment. At first I used cold applications; in others, warm emollient fomentations. In two cases, where there was considerable difficulty of deglutition, I applied blisters and some spiritous embrocations; and, in some others, I endeavoured to bring on suppuration, by frequently renewed hot poultices; and when all equally failed of preventing the affection of the testicle, I merely ordered a piece of flannel. Although the metastasis invariably took place with nearly the same degree of violence in all, the blisters and spiritous applications brought the disease to a speedier termination, while the application of flannel, or leaving it to nature, only protracted it for a day or two longer; and, when the inflammation had once proceeded to the testicle, no method was successful in bringing it back to the parotid gland.

After the metastasis to the testis had taken place, I was on my guard against its proceeding onward to the brain. A strict antiphlogistic regimen was enjoined, full and repeated purging employed; and, where the habit of body, pain, and febrile symptoms, pointed out the necessity, or repetition of venesection, it was had recourse to. Emetics were given in several cases, with the evident effect of shortening the period of inflammation, and when at its acme, of rapidly reducing the swelling. The most advantageous local treatment now, was found to be suspension, with first, warm fomentations, and afterwards the application of cold, when the inflammation had reached its height.

This stage lasted from six to twelve days, and only in two cases were there any appearances of the disease proceeding farther. In one of these, where the testis had been affected five, in the other seven days, the brain evidently began to partake of the disease. They complained of headach, which soon became very violent, giving the sensation of being bound round with a tight cord; the eyes were slightly inflamed, and had a wild appearance, and all the febrile symptoms became considerably aggravated.

No time was now lost in taking active measures. They had formerly been bled and purged; the bleeding was repeated to the extent of twenty-four ounces, from a large orifice; drastic purgatives were given; the whole head was shaved; blisters applied to the temples; and cold over the rest of its surface. The scrotum was carefully fomented, but no recurrence of the inflammation to that part could be effected. By this plan, the headach, and all the febrile symptoms, were removed in the course of thirty-six hours, and they never afterwards had any complaint.

I may take this opportunity of mentioning the failure of all my efforts in three cases of tetanus, which came under my care in

South America. They occurred in Spaniards, natives of the country, from bad gun-shot wounds in the thorax. The fullest trial was made of opium, mercury, and the cold affusion; but it appeared, that the disease could not even be protracted by any of these remedies, all of them dying on the fourth day from the invasion.

Edinburgh, 2. *Feb.* 1808.

VII.

Case of Tic Douloureux cured by Calomel and Opium. Communicated by James Corkindale, M. D. Member of the Royal Medical Society, Edinburgh, and one of the Surgeons to the Royal Infirmary, Glasgow.

S. S. about 46 years of age, of sober habits, and following an employment somewhat sedentary, was, in the month of September last, afflicted with pain of the left side of the head, in the situation of the parietal bone. Its extent was circumscribed to about the size of a dollar. It seemed to the patient to be superficial; it was rendered more acute by pressure; was uniform without any sensible remission; and was unaccompanied with any dyspeptic symptoms. Blistering of the part, and a cathartic, were recommended, and the complaint was removed. In the month of October pain returned, but was now less circumscribed, and had frequent remissions. It was conceived to arise from a decayed molaris, in the upper jaw. This was extracted, but without much benefit. The patient, about a week after, referred the pain to another tooth, somewhat decayed, and wished it also removed. The operation was performed, and followed with temporary relief. A vesicatory, too, was afterwards applied to the angle of the jaw, but without any marked effect. During all this period, there was a slight degree of puffy swelling under the left eye. It was not, however, painful, and, when pressed upon, had the appearance of œdema.

Nov. 22d.—The affection assumed a new and more distinct character. It was now almost entirely confined to the upper lip, and ala of the nose of the left side, and thence extended to the situation of the infraorbitar foramen. The upper cuspid and bicuspid teeth, the under lip, the temple, and sometimes the shoulder, all of the same side, were complained of, and included within the range of the pain, but not uniformly, nor in any considerable degree. The more immediate distribution of the infraorbitar nerve was the prime seat of the disorder. It consisted of paroxysms, irregular in degree, duration, and period of recurrence. They would at times excite only slight wincing, but more frequently violent contortions and screaming. The patient, though not peculiarly irritable in health, would often throw himself on the floor, and exhibit the most complete picture of anguish that ever the observer witnessed. The pain sometimes began in the lip, and extended upwards; at other times, it took a contrary direction, and radiated downwards from below the eye. We have no words to describe directly the varieties of internal pain; we, therefore, use language borrowed, by analogy, from the operation of external agents. The sensations of tearing, boring, burning, and scalding, afforded our patient the means of expressing the kind of pain which he felt. The duration of these attacks was not uniform, generally lasting for a minute, sometimes, though rarely, four or five times that period; on other occasions, not more than twenty seconds. During the intervals, the patient enjoyed nearly a complete freedom from pain. A slight degree of soreness was felt, not perhaps so much from the direct action of the morbid cause, as from the violence of the former attack. Such distinct paroxysms, followed by complete immunity from pain, naturally suggested to the female attendants a similarity between the patient's sufferings, and their own labours during parturition. The intervals, however, were very irregular in duration, varying from five minutes to an hour. There did not seem to be any period during the day in which these paroxysms were more violent, or more frequent in recurrence. The patient, of course, had no regular sleep; the intervals of ease were sometimes spent in unrefreshing slumbers, disturbed by dreams, suggested from apprehensions of future attacks. The paroxysms appeared to come on spontaneously, excited by no external cause, nor by the action of muscles in speaking or manducation. Strong pressure, applied to about an inch below the eye, mitigated the pain, and entirely stopped the feebler paroxysms. In the mean time, the swelling under the eye, formerly mentioned, having disappeared, the parts affected showed no marks of diseased structure; they were natural to the feel, unchanged in colour and size, though the patient himself always complained of a sense of tumefaction. Even during the paroxysms, the parts appeared in a natural condition; there was no distortion of the mouth, nor any irregular action of the muscles.

When the above history was reviewed, the denomination of the complaint was obvious. The train of symptoms pointed out the *tic douloureux* of modern writers; and the features of the case were so strongly marked, that scarcely any other disease was suggested to the mind. The plan of cure was not so obvious. The intimate nature of the complaint is unknown, and analogy could hardly suggest any thing of probable success. Experience too was not flattering, for the remedies recommended by authors did not seem to deserve much confidence. Warm fomentations; embrocations, with the tinctures of camphor and opium, bleeding with leeches, and blistering, were tried without effect. The division of the infraorbitar nerve was recommended. It was clear that this was the seat of the disease; and as the complaint was recent, and the pain almost completely circumscribed, it was not probable that the adjacent nerves were included in the morbid affection. But the operation was not submitted to, and some other remedy was required. I had often relieved cases of chronic rheumatism by a combination of calomel and opium. The analogy between rheumatism and tic douloureux, though very distant, served to suggest this remedy. I had besides read of a case of tic douloureux cured by mercury; and although that was thought to arise from syphilis, I did not much value this opinion; for syphilis is often said to be the cause of diseases, to the production of which it does not contribute. The coincidence of syphilis and tic douloureux in the same person, is not a sufficient reason for regarding the one as the effect of the other, unless that coincidence is frequently observed. The success of mercury in this instance, therefore, inspired hopes of its utility in our patient, though there was in him no ground to suspect a syphilitic taint. From the exhibition of the proposed medicine too, the patient might derive the benefit of an anodyne, an object devoutly to be wished for in his present condition. Twelve pills were therefore ordered, containing each two grains of calomel and two of opium, and the patient was directed to take two every day. One was taken at nine o'clock in the evening, the other at midnight, that their anodyne effect might coincide with the natural disposition to repose. The first night was passed with a greater degree of tranquillity, and with more sleep, than the patient had enjoyed for some weeks before. The attacks were less frequent, and comparatively feeble. The patient, to use his own language, had them now under his command, for he could put a stop to them by pressure under his eye. Seven pills * were taken in this way with a gradual melioration, and on the fifth day there came on a profuse salivary discharge. The patient now ceased to complain of his former attacks, but had a good deal of uneasiness from the effects of the mercury on his mouth. The salivation seemed to proceed entirely from the side originally diseased, and the tongue on that side only, with the corresponding parietes of the mouth, were ulcerated. This mercurial affection continued for more than two weeks, moderated however occasionally, by a gentle laxative, and a simple anodyne.

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* On the fourth evening only one pill was taken.

The patient has now (May 20th) been near six months entirely free from attacks of tic douloureux. He has followed his occupation without any interruption from the unusual severity of the weather, during winter and spring. He feels the parts originally affected somewhat benumbed, and prinkling, as if from a compressed nerve. This sensation, however, has of late become less distinct; he feels no pain; and his general health, which was much impaired by the violence of the disease, has for some time been completely restored.

To forbear hazarding any speculations on the *modus operandi* of the medicines in this case, will not, I dare say, subject me to the charge of timidity. I am ignorant wherein consists the diseased condition of the nerves in tic douloureux, and, of course, can have no idea how that condition was changed by the means employed. I am even in doubt with regard to this practical point, whether the salutary change depended on the mercurial action alone, and would have taken place, had that action been excited by a simple exhibition of a preparation of the metal; or whether we are to ascribe the effect to the particular nature of the combination. Future experiment will perhaps resolve this question. It would certainly be too sanguine, and would betray no small degree of the folly of empiricism, were I to affirm, that tic douloureux will always yield to the medicines here used. I am safe, however, in observing, that the case here related was exquisitely marked, the cure was as speedy as it was complete, and the patient at the time used no other application, which could claim any share in the effect produced. Whoever has witnessed the excruciating torments of the disease, and has experienced the inefficacy of the medicines usually employed, will, I apprehend, feel disposed to cherish the feeble hopes, which even a solitary instance of success is calculated to inspire.

VIII.

Oservations on the Effects of Purgative Medicines.

By J. CHEYNE, M. D.

CASE.

A young gentleman of 14, who had been for eighteen months at a school in the neighbourhood of Dumfries, was sent home to his friends, on account of ill health, and placed under my care in December 1805. The surgeon who had attended him in the country, gave the following account of his illness.

On the 3d September, while he was at play, he fell, or rather it was supposed he was pushed over by one of his companions. The fall was from some height, yet it did not appear that he was materially hurt. He complained of slight pain in the ribs of the right side, and one of his legs was slightly bruised. Two days after the fall, he was seized with one of the fits which are afterwards described. He has used various remedies, chiefly what are called tonic medicines.

This boy is tall, active, and florid. He had once, about a year ago, some seizures, which were thought to be hysterical. He is subject to urticaria.

The fits are sometimes preceded by a change of manner; in appearance he becomes thoughtful. The fit, when threatened in this way, is sometimes exchanged for an attack of sickness. Generally, the fit seizes him suddenly with an universal rigidity, his head is thrown back, his legs are extended, his body is arched. In this way he lies perhaps for a considerable time, and sometimes he cries out violently. Again, while amusing himself, he suddenly becomes senseless, and, unless supported, would fall forward to the ground, and when carried to bed, he breathes with stertor, his pupils are dilated to the utmost; but there is no working of saliva from his mouth.

When lying in the fit, still and insensible, I have observed a slight tremulous motion of the right side soon become general all over the body, increasing in violence until he shook like one in the cold fit of an ague.

Sometimes during the attack he has been heard to laugh loudly, he halloos upon his companions, he fixes his eye expressively, and appears to be much amused; and at these times he has referred to scenes in which it is known that he has borne a part, as if they were again passing before him. In a fit which I witnessed, he laughed heartily, and talked earnestly with some ideal persons; and immediately when the fit left him, he said he had been at the theatre, where he had seen Harlequin, and had been exceedingly amused. At another time, he is said to shriek, and assume an expression as if he saw something terrific. These hallucinations are rare; he is many days without them.

In the more violent paroxysms, he has thrown himself out of bed. Sometimes he darts up in spite of resistance, and stands rigidly. Generally, as he lies, his legs are drawn in with force, and then flung out again; and this retraction of his limbs now and then is performed with great rapidity, and generally it ends in the tremulous motion of the body already described. Sometimes he recovers from the fit at once, and is cheerful, complaining of scarce any soreness of the muscles. At other times, for a considerable period his expression is sulky. Of these fits, in the course of a day, he often has had many, but none in the night.

His pulse by the most violent fit is little affected; I have felt it repeatedly during the fit, and found it regular. His appetite is good, his belly is bound, his stools are dark, consistent, and fœtid. It is said that he has sometimes passed at once about a quart of pale urine.

He has lost the power of walking from weakness of his hams, which, however, are not contracted; but, upon placing him on his feet, he sinks to the ground, and complains of pain, particularly in the right ham. I once insisted upon seeing him attempt to stand, but the effort instantly induced a fit, and this, I understood, had happened before. He goes through the house upon his hands and his knees, and in this manner he moves even up and down stairs with great expedition.

His mother requested me not to talk to him of his complaints, for, although in general cheerful, this never fails to make him uneasy and desponding.

I would willingly give the daily reports of this case, but I fear it would thus be rendered too long for the Journal. I shall therefore content myself with giving the general result. This boy, in about two months, was restored to health. During this period, he used a great quantity of strong cathartic medicines. A scruple of aloes, and ten grains of gamboge were given daily for several weeks before his stools became natural; and, as his stools became large, loose, and natural, the fits left him, and he recovered the use of his limbs. About the end of my attendance, when his bowels were acting more naturally, one pill of the same kind, of which before it required sometimes ten to produce the desired effect, was a sufficient dose.

Cases similar to this are already recorded, but I am not aware that any efficacious plan of treatment has been pointed out. I admit that we cannot, generally speaking, reason with confidence upon the result of practice which has been successful only in one instance; but in this case, our practice is supported by analogies drawn from the successful treatment of other diseases of young persons, where, along with convulsive or spasmodic affections, we have also been able to detect a great degree of foulness of the bowels.

It is in compliance with a common idiom that I use the expression of foulness of the bowels. I am aware that it is extremely vague: I am even persuaded that such a state as mere foulness of the bowels cannot, with any propriety, be said to exist. I wish to be indulged in making some observations on this subject: These, with such remarks on the effects of purges upon the principal diseases of the intestines, as have been suggested to me, while taking a general view of their phenomena, will form the subject of this paper.

A child, after having been improperly fed, or confined to an ill-aired house, gradually loses his appetite for wholesome food; his skin becomes hard and dry, his face pale and languid; there is slight inflammation and itching at the point of the nose, the upper lip is tumid, the belly prominent. He becomes feverish, his tongue is loaded, and his breath heavy. In the afternoon there is no preventing him from falling asleep, yet his sleep in the night is disturbed by startings, grinding of the teeth, &c.; his stools are dark and fœtid. Here, in a very common disease, the slow infantile remittent of Dr Butter, the marasmus of Dr Hamilton, we have again a train of symptoms supposed to be induced by what is called foulness of the bowels; and the appellation appears to be countenanced by what is observed during the cure, the effect of the purgative medicines employed. By these medicines, stools are procured, at first dark, slimy, and fœtid, which, perhaps, for a considerable time, have nothing of the appearance of natural fæces; the evacuation seems merely a collection of vitiated secretions; but at last, by pursuing the purgative plan, large natural stools are evacuated, and it is generally supposed that these stools have been all the while lodged in the intestines, and that our medicines were not powerful enough at once to expel them; that the disease was solely from an accumulation of feculent matter.

But the fact is, that these critical stools, in both diseases, are produced by the restoration of the viscera to a healthy condition. The purgative medicine employed is useful, not so much by removing accumulation, as that it stimulates the bowels. By the steady application of this stimulus, the visceral functions are restored. The bilious and slimy stools are expelled, the light food is concocted, and, from the fecal residuum, with the increased supply of gall, of gastric and pancreatic fluids, and the secretion from the large intestines, in consequence of the renovation of the organs supplying these fluids, the large natural stools are produced, and the disease is resolved. Were the bowels in a healthy condition, they would be acted upon by what, at all other times, is their natural stimulus, and, consequently, they would not admit of this supposed accumulation. If there be accumulation, the torpid state of the intestines is the cause of it, but the disease may exist without any accumulation whatever.

There is not, necessarily, any accumulation of fæces in the intestines, when the bowels are in a state of inactivity; nay, a species of accumulation may exist, which is not attended with costiveness. In dysentery, where hardened fæces are lodged in the bowels, we see a constant succession of unsatisfactory stools, and of these stools, the hardened fæces, or scybala, would seem often to be the cause. For it is observed, by every practical writer, that when, by proper purgatives, the scybala are evacuated, there is immediately a remission of the most urgent symptoms, in particular, of the tenesmus and frequent mucous stools*. The only cases where, to a certainty, accumulation is attended with costiveness, are those troublesome cases of constipation, attended with hardened fæces in the rectum, and cases of colic and stricture.

Costiveness may arise either from the torpor of the glandular bodies pouring fluid into the intestines, occasioning vitiation or diminution of these fluids; it may arise from torpor or obstruction of the ducts of these glands, from torpor or weakness of the intestine itself, or from a very opposite state, from excessive excitement; it may arise from the too great activity of the intestinal absorbents; or, lastly, it may arise from some mechanical obstruction.

In most diseases of the viscera, the alimentary canal is either torpid or excited, the peristaltic action is either quickened, retarded, or inverted. The torpor, as well as the excitement, may be general, or it may be confined to a particular part. It also happens, in some diseases, that while one part of the intestines is torpid, another is in a state of excitement.

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* In the Act. Hafn. there is a case, by Callisen, of looseness from obstruction in the colon. It it said that liquid stools are voided when the hardened fæces accumulated are even as low as the rectum.

To apply these observations, I have to mention, that in dysentery, while the lower part of the canal is in a state highly excited, the scybala higher up show a portion of it inactive. The hardened fæces, (collected in consequence of the torpor of the intestine where they are lodged), although they do not stimulate this portion, may, by their pressure, give origin to a peristaltic motion, and thus stimulate the intestine immediately below, causing the unprofitable effects which produce the mucous stools. Hence purgatives by the mouth, combined with anodyne glysters, form the practice chiefly to be depended on in most varieties of the dysenteric attack. For instance, in the disease of infants within the month, called by nurses the watery gripes; and in measles, towards the termination of the memorable epidemic of this year, (the disease which, in January and February, was highly inflammatory, having, towards the end of March, in some instances, assumed a typhoid character with dysenteric stools), evident benefit was derived from neutral salts, and anodyne glysters.

Colica pictonum is a disease attended with costiveness, which it is very difficult to remove, consequently at first sight the most active purges appear to be required. But the best physicians have differed, as to the propriety of beginning with cathartics. Sir George Baker and Dr Warren advise opposite treatment; the former purgatives, the latter opiates. When physicians of such respectability differ in a practical point, we ought to take a side with great caution. A writer of good authority, and the last on the subject, Dr Pemberton, has recommended an union of castor oil and laudanum. Generally I have succeeded in relieving colica pictonum, (and from having for years had the medical charge of a white lead work, my experience has been considerable), by following the practice recommended by Sir George Baker: yet, occasionally I have found it necessary to give opium, and that too in high doses, particularly in those cases which were attended with obstinate vomiting. Dr Pemberton says, that opium will, in some cases of this disease, act as a powerful purgative, he supposes "from resolving the spasmodic affection of the colon by which the fæces are locked up between its circular bands." But is it certain, that the costiveness is occasioned by spasm? From the tormina we know, that there is excitement in some part of the canal; from the vomiting we infer inverted peristaltic action; but from the obstruction, we can infer no more than torpor of a particular part, and, judging from the symptoms which afterwards occur, this torpor would appear to be paralytic rather than spasmodic. This view of the state of the canal, without the aid of spasm, the existence of which is at best doubtful, enables us to understand the benefit which is derived from opiates.

By a full dose of laudanum, the whole system is stimulated, consequently the torpid part of the intestine is rendered more irritable. I imagine, that the obstinate vomiting which I have sometimes had to contend against in colica pictonum, is to be explained, as we explain vomiting in hernia. There is in both diseases, a point (the strangulated portion of the intestine in hernia, the torpid part in the lead), where the peristaltic motion is stopt, and where the struggle occasions an inverted motion of the canal; hence opium, which reduces the increased peristaltic action, is the remedy for vomiting. The practice in colica pictonum appears to be, to administer purges in the slighter cases, and opium with purges in the more severe, ordering also stimulating glysters; in both diseases, torpidity as well as excitement appear to exist at the same time. Between colica pictonum and dysentery, there is a general resemblance, but in the former disease, the excitement is above the torpid part of the canal, in dysentery it is below it.

I suspect that there is not such a disease in existence as diarrhœa is generally supposed to be; a primary disease, simply of increased peristaltic action, where the secretions are only superabundant, and not otherwise diseased. All the cases of this affection, I imagine, are sympathetic, and for these I have found opium the best remedy. In most cases of what is called diarrhœa, I have begun the cure by giving a purgative medicine, from a belief that there was some irritation to be removed. I ought to observe, however, that these cases perhaps admit of different modes of treatment; although laxatives appeared to me to be indicated, yet the morbid secretions were not of that acrid nature to render an opiate, which would have detained them, very unsafe. Cases, however, may easily be conceived, where opium in the outset would be highly detrimental.

But there is a class of diseases, and these of the most interesting kind, in which active purgative medicines are given with a very liberal hand, and in which I am convinced that they are, in the last degree, prejudicial. These are inflammations of the stomach, bowels, and peritonæum. In these diseases, treated by the most experienced physicians, I have often seen jalap, aloes, gamboge, scammony, the most active purges, given, as I thought, with manifest injury to the patient, and even when it was admitted, that we could have but little expectation of deriving benefit from them *.

These

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* Allow me to quote from Dr Clarke's *Modern Practice of Physic*, and Dr Pemberton's Treatise on the Diseases of the Abdominal Viscera, the last general system of practice, and the last treatise on the diseases which I am considering,

These acrid purges are meant to evacuate the bowels. How do purges empty the intestinal canal? By means of their specific stimulus, which increases the secretions, and quickens its peristaltic motion. But let it be recollected, that the bowels are already excited to the utmost; that they are in, or at least tending to a state of high inflammation; and that no pathological fact is better established, than that excessive excitement detroys secretion. That every secretion which it was wont to pour out, is locked up by applying stimulants to an inflamed membrane. And in the diseases under review, the peristaltic action is already too great. It arrives only at the obstructed part of the intestine; increase it, and it will be inverted, and thus a new and most troublesome symptom will be added to the disease.

In a case mentioned in my book on Hydrocephalus, of a boy who swallowed soap lee, it will be found, that obstinate costiveness was the effect of inflammation of the intestinal canal. In a case related by Mr Abernethy, of a gentleman who had a portion of the omentum cut off, the effect of great excitement of the chylopoetic viscera (as evinced by tension and tenderness of the hypochondrium, vomiting, a furred tongue, &c.) was costiveness for four days; during which, neutral salts, calomel, colocynth, and aloes, were given in vain. In considering the propriety of giving cathartics in intestinal inflammations, let it be recollected, that they have a primary effect, before their ultimate one is obtained; that they stimulate before they induce evacuation. Bleed, foment, blister; let the patient have a succession of large mild glysters; inject tepid water with a garden pump; try tobacco glysters; dash cold water on his thighs; or make him walk barefoot on a stone floor: remove every exciting cause, and subdue the inflammation, and the costiveness, perhaps, will be removed along with it. In ileus, let us not consider the removal of costiveness as an indication. Let us not attempt to remove the disease, by increasing the cause of it; for we may as well expect to cure nephralgia with cantharides, as inflammation of the bowels by means of purges. In both cases, the organs are already highly excited; and cantharides is not more a stimulus to the one, than gamboge and scammony to the other.

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considering, the following paragraphs, to enable me to show the modern practice of giving purges in acute diseases of the bowels: In inflammatory colic, Dr Clark says, "if we do not succeed with the sulphas magnesiæ, vel sodæ, phosphas sodæ, oleum ricini, infusum sennæ, supertartis potassæ, we must have recourse to more active cathartics, as jalapum, extractum colocynthidis compositum, aloe socotorina, et calomelas." In enteritis, Dr Pemberton says, "the purgatives are to be continued during the whole progress of the disease; we are to vary them as they may seem to sit most comfortably on the stomach."

In a disease of a fatal tendency, the proximate cause of the patient's death ought never to be lost sight of. Accumulation of feculent matter is perhaps never the cause of death. Dr Baillie has favoured us with a case of a man who lived 15 weeks without having any passage from his bowels, in whom the obstruction was occasioned by a stricture at the lower part of the sigmoid flexure.

To an unfavourable opinion of the effects of purges in inflammation of the bowels, I was led by a case, and dissection of a patient, who died of this disease, and whom I had attended with great anxiety. He had great, constant, ardent pain and swelling of the abdomen, vomiting, and a bound belly. He was an old man, and, during the latter years of his life, he had had several violent attacks of colic. I had him bled freely; he had glysters, purges, and blisters; but the purges were more trusted to than the bleeding; and as a milder purge failed, I had recourse to a more acrid: yet I found from the purges but an increase of vomiting and pain. When I opened his body, I found no intussusception, no mechanical obstruction, as I had expected. I found merely an inflamed and tympanitic state of the bowels.

Surgical authors, of the best authority, have banished purgative medicines from the list of remedies for the acute form of strangulated hernia.' They are disapproved of by Pott and Mr Hey. If the view of the disease given by Mr C. Bell*, in his important Observations on Hernia, be just, viz. that the patient is destroyed by the violent efforts of the intestines, not by the injury done to the strangulated part of the gut, and I think the great similarity between the symptoms in the latter stages of enteritis and hernia, amounts to a proof of this proposition, no expectation can be more feeble, than that the disease is to be removed by purges. If cathartic medicines are ever to be employed in strangulated hernia, and I observe they are recommended in some chronic cases, they ought to be of the mildest kind.

If inflammation of the bowels have produced, or arise from volvulus, purgatives must be equally improper in this disease, as in strangulated hernia. These, in essence, are but one disease. Mr Hunter observes, that the intussusception is commonly from the upper part of the intestine passing into the lower†; consequently, he infers that we are to expect little from purges which can never come in contact with the outer fold of the intestine. I prefer resting the argument upon the ground which I have already taken. Arguments from a mechanical view of a disease ought cautiously to be admitted. If they are admissible, it is in such a case as this; and here they are highly unfavourable to the practice which I am endeavouring to overturn.

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* The question, as to the propriety of purgative medicines in strangulated hernia, appears to me to be set at rest in that chapter which Mr Bell entitles, *Of the Cause of Death*. To this I must refer the reader. *Operative Surgery*, Vol. 1.

† All the intussusceptions in the bowels of children, who die from intestinal irritation,

One would scarcely think it necessary, in the present day, to impugn the practice of Ruysh, and the old physicians, who gave quicksilver in cases of obstruction of the bowels; every reason alleged against the use of purges applies with double force against this measure. Yet it is notorious, that within this twelvemonth, a gentleman, attended in his last illness by the most eminent of the profession, was permitted to swallow many pounds of quicksilver, to remove constipation, which, upon dissection, was found to have arisen from an incurable stricture of the intestine.

When the bowels have been in a state of high excitement, and purging is induced, or occurs naturally, the debility attending it is immense. Cholera very soon induces the greatest debility. I have observed it after ileus; and surgeons have found, that it sometimes fatally succeeds the operation for strangulated hernia.

Purgatives in a torpid state of the intestines, as in commencing hydrocephalus, infantile remittent fever, chorea, chlorosis, hypochondriasis, cannot be too active, and they must be continued until a change be effected in the appearance of the stools. The profession are under great obligations to Dr Hamilton; his book has removed much absurd theory which impeded our practice; but to ensure success, purgatives must be prescribed as he has prescribed them; they must be of the most active kind, and given at short intervals. It is not foreign here to observe, that although an occasional purge leaves a degree of costiveness, a course of purgative medicines, which corrects the diseased state of the intestines, often leaves the bowels more regular than ever.

Cathartics have very different powers; we have happily cathartics suited to most varieties of costiveness. When costiveness arises from a deficiency of bile, we employ antimonials and calomel; when from inactivity of the stomach or small intestines, a change of diet, mustard seed, rhubarb, jalap; when from inactivity of the great intestines, mineral waters, sulphur, aloes.

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irritation, are formed in this way. I have just returned from the dissection of a boy, who died of dysentery combined with measles. In the course of the canal, there were five intussusceptions, all formed by the upper part of the gut slipping into the under. In intussusception, if it can be ascertained before death, we may presume upon this arrangement.

aloes. Although there was no foundation for the opinion that purges act specifically on the different humours, yet the terms cholagoga, hydragoga, &c. arose from observation; the older physicians saw that one cathartic acted chiefly on the liver; another, on the alimentary canal, or on a particular system of vessels, or in a peculiar manner. It was natural enough to use these facts in support of the prevailing theory.

A state of costiveness, when constitutional, is consistent with perfect health. I have known persons of both sexes, who, from youth, were accustomed to have only one stool in the two days, and yet they maintained an uninterrupted state of good health. Constitutional costiveness only shews greater activity of the intestinal absorbents; we are not to interfere with this state of the bowels while the person is otherwise well. But if a person who is constitutionally lax be reduced to one stool in two days; or if another accustomed to have a stool in two days have only one in four, then this relative costiveness evinces torpor of the intestinal canal, or some of the viscera connected with it, and ought by all means to be removed. It is a case for medical assistance. We are not to wait for other symptoms of disease; we are to endeavour to restore the constitution to its salutary habit.

The powers of purgative medicines in inducing debility appear to depend on the state of the viscera. The operation of purges in many disordered states of the abdominal viscera does not debilitate; it appears speedily to invigorate the whole frame; but in a healthy state of the system, or even of the viscera, purging powerfully debilitates.

In the choice of purgatives, some respect is to be paid to the age of the patient. In infancy and youth, diseases of the upper part of the intestinal canal are most prevalent; in advanced life, a torpid state of the great intestines prevails. In chronic cases of purging there is great variety of treatment; we are to give mercury to change the secretions; to restrain their flow by opiates or lime water; to interrupt the peristaltic action by nauseating medicines, or to correct acidity by means of absorbents. But the most general remedies for purging are small doses of rhubarb, or of neutral salts. In old age, when involuntary loose stools arise from relaxation of the lower parts of the rectum, the disease has been relieved by the free use of wine and opium, a generous diet, and wrapping the body in flannel.

Again, when the bowels are excited, purges are either altogether improper, or they ought to consist of the mildest articles; but even these are not to be too long persevered in. In cases of excitement, if there is any thing to be thrown off, we must use the mildest laxatives, even diluents, which prove laxative by their bulk. Toast water, or a weak solution of phosphat of soda, is sufficient in cholera. In the atrabilis a German author limits our practice "*diluentibus et lenissimis purgantibus*." In inflammations of the bowels, when laxatives fail, we are not to give purgatives, and when these fail, to go to our systems of materia medica to discover if we have been so remiss as to prescribe the least active of the tribe. A man dying of ileus presents one of the most pitiable sights in nature; and a leading object of this paper is to remove part of the horrors of the scene, by with-holding many of the bitter doses which are forced upon him by the solicitude of his friends, and the officiousness of his physician.

Leith, 14*th May* 1803.

IX.

Reply to Dr Bostock's Remarks on Mr Ellis's Treatise on Respiration.

By Mr Daniel Ellis.

The last number of the Edinburgh Journal contained some "Remarks" by Dr Bostock on my late "Inquiry into the Changes induced on Atmospheric Air by Respiration." The attention which Dr Bostock has bestowed on this branch of physiology, and the learning and ability which he has displayed in its discussion, give great weight to his opinions, and claim from me an early and respectful notice. In my reply, I shall follow nearly the order which he has adopted; and while I freely comment on his opinions, shall preserve that propriety of manner, of which he has so well set the example.

In my "Inquiry," I had endeavoured to shew, from a consideration of the anatomical structure of the lungs, that no gaseous fluid could, *by absorption*, enter into the blood; and I argued, from a similar consideration of structure, that the interposition of the coats of the cells and blood-vessels necessarily prevented that degree of actual contact, which is deemed essential to the operation of *chemical affinity*. It is the chemical view of this process which Dr Bostock embraces; and, in the theory which he regards as the most probable, and which he adopted in his "Essay," "the blood arrives at the right side of the heart in a venalized state, loaded with a quantity of the oxide of carbon: as it passes through the pulmonary vessels, it becomes subjected to the action of the air contained in the bronchial cells ; a portion of the oxygen is removed from the air, part of which, forming an intimate union with the oxide of carbon, is expelled in the form of carbonic acid gas, while the remainder is dissolved in the blood[*]." Dr Bostock very truly observes, that " many parts of my reasoning are founded upon the mistaken opinion that *air* is supposed to enter the blood, and to exist in the vessels[†] ;" while, according to his hypothesis, " it is not *oxygenous gas*, but *oxygen*, which is supposed to be mixed with the blood[‡]." I cannot, however, help thinking, that, if the arguments which I have adduced against the entrance of gaseous fluids have any weight, they bear with at least equal force against the idea that the ponderable parts of these gases are able to pass through the cells and blood-vessels of the lungs. We know nothing of the properties of oxygen but as we see it in combination with some other substance ; and surely, of all combinations, its union with caloric would appear to be that which gives to it the greatest power of penetration. When, therefore, it is made to lose its caloric in the bronchial cells, and to become an inelastic body, the difficulty of supposing it to enter into the blood is, in my conception, greatly increased.

But in this hypothesis, not only is the inelastic substance of oxygen supposed to penetrate the cells and blood-vessels to unite with the blood, but another inelastic substance, carbonic oxide, is, at the same time, supposed to leave that fluid ; for we are told " that it is not at all essential to the hypothesis, that the portion of oxygen which is necessary to convert the oxide of carbon into carbonic acid should enter into the blood[§]." As, therefore, the oxygen does not penetrate to combine with carbonic oxide in the blood-vessels, this oxide must be held to do so in order to unite with oxygen in the bronchial cells ; so that at one and the same time, in one and the same place, and through the same organized structure, the affinity of the blood is made to attract oxygen, and the affinity of oxygen to attract the oxide of carbon out of that fluid. Such a complicated system of operations, to bring about so simple a combination as that of oxygen and carbon, is so very unlike to the ordinary procedure of nature, that nothing short of absolute demonstration can impress a persuasion of its truth. It forcibly reminds me of the theory of electricity proposed by the Abbé Nollet, as it is related by Dr Priestley in his valuable history of that science. " The ingenious Abbé," says Dr Priestley, " supposes

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[*] Edin. Journ. p. 160.
[†] Ibid. p. 161.
[‡] Ibid. p. 160.
[§] Ibid. p. 162.

"supposes that, in all electrical operations, the fluid is thrown into two opposite motions: that the *affluence* of this matter drives all light bodies before it, by impulse, upon the electrified body, and its *effluence* carries them back again. But he seems very much embarrassed in accounting for facts where both these currents must be considered; at the same time that he is obliged to find expedients to prevent their impeding the effects of each other. To obviate this great difficulty, he supposes that every excited electric, and likewise, every body to which electricity is communicated, has two orders of pores, one for the emission of the *effluvia*, and the other for the reception of them. A man of less ingenuity than the Abbé could not have maintained himself in such a theory as this; but, with his fund of invention, he was never at a loss for resources upon all emergencies, and, in his last publication, he appears to be as zealous for this strange hypothesis as at first *." Now, the hypothesis of respiration, which Dr Bostock espouses, appears to me to involve similar difficulties; for it supposes two opposite attractions, or currents, to be going on at the same time through the same membrane, which (contrary to anatomical fact) would seem to require the existence of two distinct orders of pores, that they may not impede each other. It has, besides, one difficulty from which the Abbé's hypothesis is free; for it supposes fixed and inelastic bodies to penetrate a compact membrane, with the same facility as the subtile matter of electricity is known to be able to do.

To the argument employed by me, that "granting to the blood the power of attracting air, or its oxygenous portion, it is not easy to conceive why it should so readily lose it, and again give out this air in the form of carbonic acid †," Dr Bostock thinks it sufficient to reply, "that it is not air, but a portion of its oxygen, that is attracted: that the only part of the oxygen that can be supposed to undergo this rapid succession of changes, is the quantity which is necessary to convert the oxide of carbon into carbonic acid: and that it is not at all essential to the hypothesis, that this portion of oxygen should enter into the blood ‡." From this statement, it appears, that the carbon and oxygen pass through not fewer than three distinct stages of combination, previous to their expulsion in the form of carbonic acid. First, "the oxygen which was dissolved in the whole mass of blood, during the circulation, gradually unites itself more intimately to a portion of the carbon in it, which it converts into the oxide of carbon *:" then this carbonic oxide passes through the vessels, and, by uniting with another portion of oxygen, becomes carbonic acid in the bronchial cells: and, lastly, "this carbonic acid is converted into carbonic acid gas, by a portion of the caloric set at liberty in the lungs †." It is very true, that, by this explanation, Dr Bostock gets over the objection, as far as it regards the rapid attraction and expulsion of two different gaseous fluids by the blood, but only, as I think, to plunge his hypothesis into still greater difficulties: for what must happen, in the short period of one ordinary respiration, before the conditions of this hypothesis can be duly fulfilled? The inspired oxygen gas must lose its elastic state, to enable one portion of it to combine with carbon in the blood-vessels, while another portion unites, in the bronchial cells, with the carbonic oxide discharged by the blood; and the compound thus produced must be raised into the gaseous form previous to its expulsion from the lungs; in other words, an elastic body must become fixed in order to unite with another fixed body, and the compound produced must again become elastic—all in the space of about 1-20th part of a minute. Such a rapid succession of opposite changes, occurring constantly in the same bodies, may possibly take place, if we admit all the other conditions to their union which this hypothesis requires; but I am not aware that the science of chemistry furnishes any thing analogous to it. It affords, indeed, many examples of fixed bodies becoming rapidly elastic, and of elastic bodies becoming fixed; but it yields, I believe, no instance of one elastic body becoming fixed, in order to unite with another fixed substance, and the compound resuming so suddenly the elastic form which one of its ingredients previously possessed.

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* Hist. Electric. 2d edit. p. 426.

† Inquiry, p. 123.

‡ Edin. Journ. p. 161.

It is, farther, an objection to this hypothesis, that it supposes carbon and carbonic oxide to exist, at the same time, in the same blood, and to be exerting affinities towards oxygen in modes which are directly the reverse of each other: for while one part of the oxygen is conceived to enter the blood, and unite with a portion of its carbon, another part is supposed to attract the oxide of carbon from that fluid. Admitting, therefore, the possibility of these two substances passing, in opposite directions, through the membranes of the lungs, without impeding each other, it may still be questioned, whether the relative affinities of carbon and carbonic oxide for oxygen be such as is here supposed; or whether, since this oxide is supposed to be diffused through

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* Edin. Journ. p. 160.

† Ibid.

through the whole mass of venal blood, we ought not rather to expect, on chemical principles, that the portion of oxygen which is considered actually to enter that fluid, would unite at once with this carbonic oxide, in preference to the more simple substance of carbon, and thus deprive the system not only of that "surplus quantity of oxygen which is supposed to be expended on a variety of useful purposes," but give rise to the unnecessary supposition, that carbonic acid is formed, at the same time, both in the blood-vessels, and in the bronchial cells.

Dr Bostock considers the observation which I make, "that the formation of carbonic acid, and the abstraction of oxygen, are always exactly proportional, to be as favourable to his hypothesis, as to that which he considers me to maintain[*];" but as, in his hypothesis, the inspired oxygen is employed not only to form carbonic acid, but "to answer other useful purposes in the animal œconomy," it must, I conceive, be extremely difficult to determine how much of it may be used for one purpose, and how much for another; and whether, in different states of the system, the proportion may not greatly differ, or, in some cases, be nearly reversed. In fact, the establishment of this proportion does not seem at all necessary to Dr Bostock's hypothesis, but to my views it is of the greatest importance: and he elsewhere observes, "that what I say respecting the correspondence between the bulk of oxygen destroyed, and of carbonic acid produced, shows that I am perplexed, and at a loss to make out my position[†]." I readily admit the difficulty which attends this point; but I must be allowed to say, that, in proportion as the causes of error have been detected and removed, the approximation to this correspondence in bulks has increased. I cannot here detail all these causes of error; but in none of the experiments which I have seen, have they been hitherto fully appreciated; and to this we must add, the difference of opinion that still prevails among chemists as to the fact, whether the bulk of oxygen gas is, or is not, changed by its conversion into carbonic acid. I followed the opinion of Crawford, that oxygen gas does suffer a small degree of condensation, because this view best accorded with the most accurate experiments which had been made on the respiration of the different classes of animals; but, in almost every class, I have, likewise, given examples, where no variation of bulk occurred in the air in which animals were suffered to die[‡]. I do not, therefore, at present, take upon me to decide, whether the bulk of acid produced in respiration be somewhat less than that of oxygen gas lost, or whether it be exactly equal to it; but, in either case, I entirely incline to the belief, that the carbonic acid produced contains in it the whole of the oxygen that has disappeared.

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[*] Edin. Journ. p. 163.

[†] Ibid. p. 166.

[‡] Inquiry, p. 68, 99.

I may beg leave to add, that, very shortly after the publication of my treatise, I had the pleasure of meeting Mr Dalton in Edinburgh, who informed me, as nearly as I can recollect, that he had some time before communicated to the Manchester Society his reasons for concluding, that no part of the oxygenous portion of the air entered into the blood, but that it was converted into carbonic acid in the cells of the lungs. These opinions he conveyed to Dr Thomson, who, in consequence, made some experiments which led him, also, to the conclusion, that "the carbonic acid formed in respiration, is exactly equal to the bulk of oxygen which disappears: Hence," he adds, "this oxygen must be changed into carbonic acid in the lungs; for oxygen, when changed into carbonic acid, does not sensibly alter its bulk *." I was highly gratified to find the opinion of these able chemists coincide with that which I had formed on this important question; and it may add somewhat to its authority, to state, that our conclusions were probably suggested by different views, and were certainly obtained by methods entirely independent of each other.

But to all these facts and opinions, Dr Bostock may, perhaps, still oppose the well known experiments of Dr Priestley, which, indeed, he considers to establish, beyond the reach of scepticism, the fact, "that oxygen has the power of penetrating a compact membranous body. Dr Priestley," he adds, "found that blood, when separated from the air by a bladder, was acted upon by it in the same manner as when no substance was interposed between, and that a thick stratum of serum also permitted the action of the air †." I was fully apprized of the existence of these experiments, and of the importance attached to them, when I published my treatise; but I deferred their particular examination to a subsequent part of the inquiry, where they would more properly fall to be considered. I shall now observe, that they only prove the same change to be produced in blood by the air, through a moist membrane out of the body, as is produced through a similar membrane in the lungs; but they do not prove either that oxygen gas, or oxygen, enters into the blood; neither do they oppose any difficulty to the views which I entertain,

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[*] Syst. Chem. Vol. V. p. 774. 3d. Edit.

[†] Journal, p. 161.

tain, but accord perfectly with what I conceive to happen in the lungs themselves. I have already shown, that the serum of blood acts upon the air, by converting its oxygen into carbonic acid, in the same manner as the crassamentum does *; and I may now add, that if a bladder, containing venal blood, be suspended in a jar of atmospheric air, it will likewise be found to produce carbonic acid, in proportion to the oxygen gas which disappears, until the whole of that gas is consumed; consequently, in these experiments, as well as in the lungs during respiration, I consider that the oxygen which disappears, is to be sought not in blood, but in the carbonic acid that is formed. The same explanation extends to the experiment of Dr Goodwyn, which Dr Bostock pronounces an *experimentum crucis* in favour of the entrance of oxygen into the blood. I can have no doubt, that an exhalation or evaporation of fluid, containing carbonic matter, proceeded from all the moistened surface on which the stream of oxygen gas was thrown, and that carbonic acid was, in consequence, produced. In several trials, Dr Goodwyn did not succeed in producing any change in the blood; and, in other cases, the change was very slight, which, according to my views, would depend on the greater or less quantity of fluid supplied to act upon the air, just as occurs, under similar circumstances, in the lungs themselves; for, "whether the exhalation from the pulmonic artery be, or be not, the principal cause of change in the blood, pulmonic blood," says Dr Barclay, "when exposed to the air, through the medium of its vessels, is always observed to change its colour a great deal faster while the exhalents continue to act with a vital energy, than when they act slowly and feebly as inanimate organs †."

Having thus stated all that at present occurs to me against the hypothesis which Dr Bostock espouses, and all that, in the present state of the argument, seems necessary in defence of the opinions which I entertain, I shall conclude, with making a few observations on the objections brought by Dr Bostock against the hypothesis which he considers me to maintain. I must, however, beg to observe, that I am not conscious of having proposed any hypothesis whatever. It was not my object to investigate the effects produced in the blood, but the changes induced on the air; and these latter I have discussed, without venturing any opinion concerning the former. Many of the objections which Dr Bostock urges, against what he conceives to be my hypothesis, are directed against opinions which I have no where maintained. I have not said, that "the change which the venal blood undergoes, consists simply in the abstraction of carbon;" neither have I supposed, that "the venal blood differs from the arterial in containing a quantity of carbon;" nor "that the fluid becomes arterialised merely by the loss of a part of its carbon *." All that I have endeavoured to prove, is, that the oxygen gas of the inspired air is converted into carbonic acid gas, by combining with carbon emitted by the exhalent vessels of the lungs: that no part of the air enters into the blood; but that all the oxygen which disappears is to be found in the carbonic acid produced. These opinions I have endeavoured to support by an appeal to facts and experiment, without regard to any hypothesis whatever; and I am anxious that the discussion, as far as I have yet entered into it, should be conducted on the grounds on which I have attempted to place it. I hope I shall be excused, therefore, in passing over the first and second objections of Dr Bostock, because they apply, in great part, to opinions which have not been proposed by me; and they will not, I conceive, affect the *real opinions* which I entertain concerning the cause of the changes produced in the blood by respiration, and the manner in which they take place.

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* Inquiry, p. 121.

† On Muscular Motion, p. 524.

The third objection applies more directly against what I have published; for Dr Bostock considers, that my views "do not explain how the regular supply of carbon is, at each successive circulation, brought to the lungs in a state proper to be discharged." I certainly admit, as Dr Bostock observes, that the supply of carbon is derived from the digestive organs; but I do not conceive, as he seems to imagine, that "this carbon is no sooner received into the blood than excreted, or that the first operation which takes place in the sanguiferous system, after it has received the substance which is to afford nutriment to the body, is to discharge the greatest part of it †." I regard carbon as a constituent part of the animal fluids; and have endeavoured to shew, that it is emitted by the exhalents of the skin and intestines, as well as by those of the lungs,—producing, in all cases, similar changes on the air ‡. Digestion I hold to be in no other way the source of the carbon in these fluids, than as it is the source of all the other principles which they contain. We know, that all the phenomena of respiration are often exhibited for long periods where no digestive process is carried on; but the functions of life must, sooner or later, come to an end, if the various means of exhaustion be not recruited by supplies through the digestive organs. It is only in this distant view that I consider digestion as the source of carbon; its immediate sources are the exhalent functions of the body, which will afford carbon as long as they are supported by the motion of the blood, and will no longer yield it when the motion of the blood has ceased [*]. But whether the exhalent functions continue or cease, I consider that carbon exists abundantly, if not equally, in the serum and crassamentum, in arterial and venal blood.

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* Journal, p. 164. † Ibid, p. 166. ‡ Inquiry, p. 185, et seq.

The fourth and last objection to my views, viz. "that they do not explain in what way the oxygen is employed which is consumed in respiration [†]," necessarily falls to the ground, if it can be shewn, that it is entirely contained in the carbonic acid that is formed. I do not say, that this is absolutely and unequivocally proved; but I may safely re-assert, that the approximation to it is near indeed, and that sources of error may be pointed out sufficient to account for the want of a complete correspondence. Difficult as it may be to establish this point by experiment, with perfect exactness, it will, I apprehend, be much more difficult to prove the passage of oxygen through the membranes of the lungs, and its existence in the mass of blood; and, until this be done, it seems consistent with philosophical caution, to defer the consideration of its supposed uses and effects in the animal sytem.

THE INQUIRER. No. XIV.

Illustration of "an Essay on the Conversion of Diseases."

——————"fert animus mutatas dicere formas."—Ovid.

In the second part of the ninth volume of Dr Rees's New Cyclopædia, just published, there is a well written article on the *conversion of diseases*, the substance of which is confessedly taken from an essay of Dr Ferriar's. (Vide Medical Hist. and Reflect. Vol. II.)—I propose to inquire who deserves the credit of that essay? The subject is curious and important, and the writer merits the thanks of the profession, for having called their attention to it. I should be glad to bestow all the praise that is due to the first writer upon this subject, to our ingenious countryman, whose claims are generally allowed in this instance, and in many others, not to be inconsiderable, but justice appeals in behalf of a foreigner. Hippocrates, Galen, Sydenham, Hoffman, Baglior, and indeed the greatest writers of almost every age, have pointed out, with all the force of observation and good sense, the changes and conversions which diseases undergo, and have endeavoured to show, that some are dangerous, and some salutary. With submission, therefore, to so many great authorities, I must think Dr Ferriar has pushed his remark too far, when he says, " this subject has been almost totally overlooked by medical writers." Some passages will be quoted presently, which might almost tempt one to believe that the converse of the proposition was true, and that some medical writer had been looked over. For it is difficult to suppose, that a man of such acknowledged erudition and research as Dr Ferriar, should be ignorant of the merits of a book published in France four-and-twenty years ago. There is a remarkable coincidence in the title of these two essays ; their style is much alike ; the definition they both give of their subject ; the division and arrangement are similar ; and also, their account of a curious treatise by a Spanish physician, which seems to have led them to attend to this subject ; so that every reader is reminded of a studied imitation. The writer to whom I allude is *Lorry*, a distinguished French physician, some of whose works are well known in this country ; but his treatise on the conversion of diseases, is a posthumous work, edited by his nephew, the celebrated Hallé, and published at Paris in 1784. It is written in Latin, and has the following title : " De Præcipuis Morborum Mutationibus et Conversionibus, Tentamen Medicum. Authore, A. C. Lorry, D. M. P." The first intention of the author seems to have been to republish the little work of Rodericus à Castro, which has the quaint title " *Quæ ex quibus*," with notes and additions ; but the work swelled so much under his hands, that he determined to make a new book ; and he deferred the publication for many years, in order to add to the number of facts which were to support it, because he was convinced that multiplied observations must serve for the basis of any treatise of this nature.

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[*] Inquiry, p. 179, et seq.

[†] Ibid. p. 166.

Lorry says—

" Metaptosis adesse dicitur, cum inter medios morbi tumultus, vigenteque symptomatum atrocitate, prædominans aliquod exurgit phenomenon, et non extinctâ, non destructâ morbi causâ, sed illâ contra partem aliquam invadente, inopinata reviviscit scena mali, mutatur symptomatum ordo jam antea constitutus et vel novæ spes vel timores novi exsuscitantur." p. 2.

Dr Ferriar says—

"A disease is said to be converted, when new symptoms arise in its progress, which require a different designation, and which either put a period to the original disorder, or, combining with it, alter the physician's views respecting the prognostics or the method of cure." p. 1.

Lorry says—

"Prima est fomitis morbosi indoles quâ per se multiplicari valet. Secunda ejus est copia quæ vires prosternat atque funditus adoriatur. Cui causarum classi ea addenda est quæ pendet à virium imbecillitate. Tertia quæ à corporis vitiosâ constitutione ita nascitur ut prorsum in vitia corpus illatam luem in partem aliquam combibat et ad eam advocet dum à reliquis repellitur. Quarta demùm est ea humorum conditio quâ ipsi depravati, huc aut illuc ad morbosos effectus per metaptosin eliciendos, ab occasionalibus sive accidentariis causis determinantur." p. 217.

Dr Ferriar says—

"All cases of conversion may perhaps be conveniently referred to the following heads: 1. The supervening disease may be produced by the remote causes of the original disorder: in this case, the action of those causes, after producing its first effect, is prolonged so as to excite a new train of symptoms. 2. The supervening disease may arise from the excess or combination of the symptoms of the original complaint. 3. The state of the habit produced by the first disease may give rise to a new disorder. 4. Conversions may happen from the imprudent suppression of habitual diseases. Anomalous cases may occur from the coincidence of independent diseases, or from the mixture of two or more of these sources of conversion." p. 4.

These are two instances of coincidence, and it is not worth bringing forward any more. Most of the examples, however, which Dr Ferriar relates in illustration of the subject, are adduced from his own experience and reading, or they are communicated by his friends, and are well selected for his purpose. I shall not join in the common outcry against the discoveries of modern times, nor proceed to contrast the knowledge of the antients with that of our contemporaries. There is more noise than reason in this; and since it is known how readily hypotheses present themselves to the mind in every age, I have no difficulty in conceiving how some hunters out of the wisdom of their predecessors, can trace Newton's sublime discovery in the works of Lord Bacon, the circulation of the blood in Greek and Latin authors, the new chemical doctrines in the works of Mayow, and the affusion of cold water in fevers in the writings of Hippocrates. There is no cause for detracting from the merit of any one who discovers an immediate connexion between two events which was unknown, although the fact be mentioned in a book printed a century before his time. The discoverer's merit remains precisely the same; he establishes the relation between phenomena not before understood, and he adds all the advantages of a newly detected truth to physical science. Not so a speculative essay; every one is bound to think for himself, and not to trouble his readers with the same general remarks which have been handed down for so many ages as pegs and nails for practical truths to be fastened upon. I will give a short account of the two works alluded to in the course of this essay, and leave the difficult and important subject of the conversion of diseases, to be illustrated and freed from the perplexity which has entangled the speculatists of all ages, by the practical inquirers of the present.

The treatise of Rodericus à Castro, with that quaint title which is taken from one of the aphorisms of Hippocrates, is a singular composition, in one duodecimo volume, printed at Frankfort 1646. It is a motley performance, made up of incoherent maxims, and useless commentaries on the writings of Hippocrates and Galen. It has the venerable air of antiquity about it by abundance of Greek and Latin quotations; and it reminds us of the painter who had no genius, but was accustomed to make his daubings pass for originals, by placing them in the smoke. It suggested the subject to *Lorry*, who may be said " *ex fumo dare lucem*;" for his treatise is a clear and philosophical discussion, divided into three parts, the first of which treats of epigenesis, the second of metaptosis, and the third of metastasis. Metaptosis differs from epigenesis in this respect: in the latter, one disease is added to another, whilst, in the former, the original disorder is changed into one that is more dangerous. The distinction between metastasis and metaptosis seems to be without any real difference; but it is connected with the supposed operation of the vis medicatrix naturæ, and one is said to be a salutary, the other a morbid change. Under each of these heads, which are again subdivided so as to fill almost five hundred pages, the author has arranged many curious facts, and he has employed much close and deep thinking about the subject of his investigation. In one of his chapters, where he speaks of the changes which the natural powers of the body bring about, and traces the ineffectual influence of certain actions, he states most distinctly the observation which has been attributed to Mr John Hunter, and held up by some of his over-zealous admirers as his theory of the incompatibility of similar morbid actions in the living body at the same time, which, in truth, is nothing more than a recital of facts in abstract terms: " Id enim omnis semper medicus ante oculos habere debet, quod observatio demonstravit ab ipsius Hippocratis ævo constantissima, *naturam salubriter ad duo objecta non posse attendere* et in ipsis occupari, sed è duobus alterum ab altero hebetari et quasi excludi."—Lorry, p. 322. In treating of a complicated series of morbid actions, there is great danger of being bewildered in the maze of chimerical notions, and this the more, especially if the author sets up for a system-maker. Something of this kind, I apprehend, has happened to those who have examined the conversion of diseases before Dr Ferriar. He has pointed out the true method of inquiry, he has added a good example to a judicious precept, and endeavoured to recal physicians to that line of study by which Hippocrates and Sydenham enjoy a sort of immortality upon earth, and at this day read lectures to all the world.

The only other treatise that I am acquainted with on this subject, is a thesis in " Schlegel's Thesaurus pathologico-therapeuticus," Vol. I. " *De Successione Morborum, auctore Carolo Gianella, Batav.* 1742." I have not that work now at hand to refer to, but, as far as I remember, the author considered his subject under three heads:

" I. De successione morborum, ratione vicinitatis,
" II. De successione morborum, ratione consensus,
" III. De successione morborum, ratione officii:"

An arrangement liable indeed to some objections, but sufficient to comprehend a description of those morbid associations, those intricate and obscure relations, or sympathies as they are called, which admit of some explanation by attending to the resemblance in organization and function of different parts. The conversion of diseases involves the consideration not only of many interesting phenomena in the history of diseases, but also in the prognosis and the cure. " Qui bene judicat, bene curat," says Baglivi; and the best way to acquire such knowledge is to be aware of the fallacy of symptoms, and to be able to discern all the higher shades and changes of morbid actions.

PART

PART II.

CRITICAL ANALYSIS.

I.

A Popular View of Vaccine Inoculation, with the practical mode of conducting it; shewing the analogy between the Small-pox and Cow-Pox, and the advantages of the latter. By JOSEPH ADAMS, M.D. F.L.S. Physician to the Small-pox and Inoculation Hospitals, and to the New Finsbury or Central Dispensary. 12mo. Pp. 161. Phillips, London, 1807.

THE intemperate zeal which has been displayed, both by the friends and the foes of vaccine inoculation, in the discussion of its merits, has been the subject of just animadversion. But on a topic of such momentous importance to mankind, as the prevention of one of the most loathsome and fatal distempers with which they are afflicted, some degree of honest warmth in the cause of humanity is truly venial: it is at least less offensive to us, than the quiet complacency with which this equivocal *amphibious* production before us is ushered into the world. The force and extent of the evidence in favour of the security of the vaccine disease are amply sufficient, in our opinion, to impress conviction on any mind which is capable of viewing that evidence, in all its bearings, disinterestedly and without prejudice; and the report of the College of Physicians, which was satisfactory to the most elightened assembly in the kingdom, may be adduced in support of the truth of our assertion. Is it not, then, truly melancholy to reflect on the present misguided state of the public opinion on the subject; to consider that the prejudices of the ignorant have been played upon, and their fears and weaknesses abused by hearsay occurrences, and distorted on suppositious facts; and, in the mean time, to observe that the pestilence of small-pox, which had, in a great degree, ceased its ravages, has again been disseminated through the country under some of its most malignant and fatal forms?

Contemplating the matter in this light, the reader will peruse the title-page of this little work with pleasure, as it obviously implies a pointed attempt to guide the public to a right consideration of the subject. But, in the sequel, he will be somewhat disappointed. The unity of design is no where found but in the title-page; and the work, like the hospital which the author superintends, is two-fold: one-half of it being dedicated to the discussion of the inoculation of the *small-pox*, and the treatment of *that disease!*—the other half only being set apart for the "popular view of vaccine inoculation!"

This is an extraordinary association of subject: the author, doubtless, took the hint, though he has not taken his motto from Cato.

> 'Thus am I doubly armed: death and life,
> The bane and antidote are both before me.'

But, whatever his motive or authority, the combination is to be condemned as most injudicious, not to say most inconsistent with the avowed design of the work. This is not a subject upon which half measures are to be pursued. The two diseases differ so essentially in one grand point, the production of contagion, that we do maintain, that no individual who is satisfied, as Dr Adams affirms himself to be, of the security of the vaccine inoculation, is justifiable in exciting, directly or indirectly, a favourable impression of any modification of the variolous infection. Our public duty in such a service is, beyond all dispute, paramount to personal considerations, and to complacency to individuals. It should never be absent from the recollection of any practitioner (it never can escape the recollection of the humane), that the small-pox is not only a loathsome and fatal disease, but that, in the mildest forms, it spreads around itself a pestilential contagion, destructive beyond all calculation: that every individual inoculated, may become the centre of a circle of disease and death; and that thus to disseminate the poison is voluntarily to perpetuate pestilence, and to consign our species to miseries which we have the power to avoid. Let us not, then, whatever we might do before the discovery of the benign and inoffensive cow-pock, when we had but a choice of evils, let us not sit down, cold in heart, to calculate the number of "*prudent* individuals," p. 5, who preserve themselves and their families by small-pox inoculation. The observation is now out of place; it should not have been admitted into Dr Adams's book. The most prudent now will secure themselves, without diffusing a fatal malady among the multitude, not of the *imprudent*, but of those who are misguided by honest prejudices, and fall into well meaning errors; which prejudices and errors it should have been alone the business of Dr Adams to expose and correct.

After having stated two or three circumstances connected with the history of the *small-pox*, the author discusses, in Chapter II. " the causes to which we may attribute the advantages of receiving the *small-pox* by inoculation." The cow-pox is here not once alluded to. To explain the point in question, a mere hypothesis is adduced, which is neither very clear nor satisfactory. He attributes the severity of the disease to what he calls the first shock, which he seems to consider as confined to the face in the casual, and to the arm in the inoculated *small-pox*. But does Dr Adams know on what part the contagion first operates when casually received? and does not the general eruption also appear first in the face under inoculation? besides, are other eruptive diseases rendered less mild by inoculation, from any similar cause? It appears not, especially with regard to measles. We must therefore consider the fact as still unexplained.

Chapter III. treats of " the various kinds of *small-pox*, and on the approximation of the most favourable to the cow-pox." Here we begin to trace a source of the author's attachment to the small-pox, as we catch a glimpse of something like a *hobby-horse*. The author made a discovery of a particular variety of *small-pox*, which the nurses call the *white sort*, and he denominates the *pearl sort*. Having inoculated a certain number of children with the lymph taken from one of the pustules, or vesicles, of these *pearl-pox*, he inoculated a second number with matter taken from the mildest of the first, and so on, by successive inoculations from the mildest, he was at length enabled, he affirms, to propagate a *small-pox*, of the mildest nature, and, in the form of its vesicles, resembling the cow-pox. These observations would have been justly deemed valuable ten years ago: but now, when all this mildness, and more than this, is attainable in the cow-pox, without pestilential effluvia, the publication of such a fact, whether true to any extent or not, is to be lamented as an evil; for small-pox is still small-pox, as to its contagion, whether in the shape of a confluent scab, or a *pearly* vesicle.

Having shewn the approximation of the variolous to the vaccine vesicle, when thus nursed, Dr Adams proceeds, in the following chapter, to bring forward " presumptive proofs, deduced from the laws of all other morbid poisons, that the variolous and the vaccine *is* the same," p. 37. He states the general fact, that two diseases excited by specific contagion, cannot exist at the same time in the same individual; and that if the virus of measles and small-pox, for example, be inoculated together, the one disease will be suspended, until the other has completed its course, when it will commence, and go through its course, independently. But if the small-pox and cow-pox virus be inserted at the same time in different parts of the same individual, there is no interruption whatever in the progress of either disease. Farther, the fact, which was first observed by Dr Woodville in regard to small-pox, that a second inoculation three or four days after the first, will produce a mature pustule at the same time with the first, is strictly true with respect to cow-pox. Lastly, " if small-pox is inserted to-day, and the same subject inoculated three or four days after with cow-pox, or with cow-pox to-day, and three or four days after with small-pox, the same consequences will follow as if both insertions had been of small-pox only, or of cow-pox only; that is, each will arrive at maturity at the same time." p. 42.

Now it appears that if the action of the cow-pox virus prevents the action of the small-pox virus, it must be admitted, that its *operation* on the constitution is the same as that of the latter; as the *effect* of the operation of both is the same. This is necessarily implied in the notion of the preventive power of the vaccine disease. But this reasoning of the author proves nothing more. And he feebly attempts to explain away the difference of the two diseases, in regard to the non-production of secondary pustules, and of contagion, in the cow-pox. The *origin* of the latter he does not notice. While these marked differences, however, exist, it is an abuse of language to say they are the same, notwithstanding that in one or two leading points they may coincide. If the author really meant to advocate the cause of vaccination, he appears to us to have fallen upon the most injudicious and unfortunate mode of executing his purposes that could be conceived. He first represents the *small-pox* as stripped of all its individual horrors, and possessing the mildness and actual character of cow-pox,—no inconsiderable recommendation to those who are doubtful of, or prejudiced against the cow-pox; and then he represents the latter as being, in fact, the same disease as the former. Now we cannot but believe, that to contend for this assimilation of the two diseases, is to maintain, though unintentionally, the most dangerous, because the most insidious, hostility against the salutary practice of vaccine inoculation.

Dr Adams goes on through three chapters more to treat of the *small-pox*, in one of which he details minute instructions, as to " the mode of conducting small-pox inoculation," and, in the other, as to " the prognostic symptoms of that disease." We cannot discover the necessity or propriety of giving all this information to the public, in a work professedly written to illustrate the superiority of the cow-pox.

Arrived at the 71st page (the treatise terminates at page 131), we, for the first time, find our author's attention directed to the advantages of the cow-pox; and here, too, for the first time, he seems to have recollected, that inoculated *small-pox* "has sometimes proved formidable," and that it "is always attended with an uncertainty as to *the mischief we may spread around us*." p. 72. And he now discovers how happy we are in the possession of the cow-pox. "Without symptomatic fever, without secondary eruptions, or without danger from either, and also without danger to others, we secure ourselves, our children, or friends. No season need be preferred, no age is improper, and no state of health has been found prohibitory." Yet he has just been attempting, for what purpose we know not, to reason us into a belief that the two diseases are essentially the same!

In answer to "the first and most important of all inquiries, does cow-pox introduce dangerous diseases into the human body?" p. 73. the author simply adduces the robust health of dairy maids, who receive the virus in its full force. He then impugns the disgusting and "highly disgraceful" expressions of impurities in the blood, the evil, or *scrofula*, and such undefined terms, which have been applied to those individuals in whom any untoward accident has happened after vaccination. The fair inference from these facts, he says, is, that such accidents are to be imputed "to such a peculiarity of constitutions as to be affected by these substances (the variolous and vaccine fluids) in a manner which could not be previously known." p. 84. This is, doubtless, the more just and philosophical way, not of explaining the facts, but of confessing our ignorance; it is certainly not more definite than those vague terms which Dr Adams has censured.

The author devotes Chap. X. to "the *next*," surely the first and most important object of inquiry, "Is vaccination a security against the small-pox?" This is well argued. Dr Adams admits, what is now indubitable, that cases of small-pox succeeding to cow-pox have occurred. They have occurred, he says, under two different forms. In by far the most numerous instances, the small-pox, after the cow-pox, have appeared so mild and so deficient in the true variolous character, (turning on the 5th or 6th day, &c.), as to excite doubts of the reality of the disease. But its identity has been proved by inoculation from it. In a very few cases the small-pox which occurred subsequent to the vaccine pock, were severe as usual, in one or two instances fatal. Now the author maintains, that cases of second small-pox, after small-pox have already been suffered, occur as frequently as these *severe* cases of small-pox after cow-pox. This, he believes, would never been doubted, had we not unfortunately been in the habit of estimating the security of a patient by the severity with which he has passed through the disease. And he has no doubt that, before the discovery of vaccination led to a more accurate discrimination of eruptive diseases, the mild and imperfect small-pox, above described, have frequently occurred after a first small-pox; but they would then pass unnoticed, or remain at least doubtful, or be considered as chicken-pox. Dr Adams quotes the first edition of his book on *Morbid Poisons*, published in 1795, to show that the fact of small-pox occurring *twice* in the same person was at that time admitted. He also transcribes a case from the Memoirs of the London Med. Society, Vol. IV. p. 186, published in the same year, in which a man, who, when a child, had a severe small-pox, together with three others in the family, of whom one died, and who was remarkably pitted and seamed by the severity of the eruption, was attacked with small-pox again, at fifty years of age, in a confluent manner, of which he died. Four of the family took the contagion from him in this second attack, one of whom, his sister, also died.

It has been objected against vaccination, that the signs of security are uncertain. But Dr Adams contends that there is not more uncertainty in the vaccine, than in the variolous eruption, and he quotes a paper from the Medical Transactions, Vol. III. in which a very intelligent practitioner relates two examples of variolous pustules, from inoculation, which appeared to him in all respects satisfactory, and from which nineteen persons were inoculated, and went through the disease. The two children, however, had no constitutional disease; they were, therefore, by the desire of the parents, inoculated again, sickened, and had a considerable eruption of pustules in the ordinary way. In conducting vaccine inoculation, "the most important consideration," Dr Adams says, "is carefully to avoid using fluid in the smallest degree turbid. True vaccine fluid is so perfectly transparent, that on fine glass, or even on the point of a fine lancet, it cannot always be perceived."—"It is generally thought best to take the fluid before the eighth day; but when this is done, the vesicle *from which we take it* should be watched till scabbing, for if without other violence than the above puncture, the contents should become mattery, or the scab soft, we ought not to depend on the issue of our vaccination, but to take another opportunity of repeating it." p. 112. The following description of the progress of the vaccine vesicle is the most valuable portion of the volume.

"On the following day it will sometimes not be easy to ascertain whether our inoculation has succeeded; but on the next, being the third, inclusive of the day of inoculation, you may perceive a red point, which, being pressed by the finger, will give the sensation of a very small hardness immediately under the skin. On the fourth day the point should be increased, and somewhat shaded or irradiated. On the fifth a small vesicle or bladder may sometimes be perceived with the naked eye. On the sixth, with still more certainty. This is gradually increased in size, the base rarely exceeding the summit, till the eighth or ninth, when the almost level summit will, for the most part, exceed the base. During the whole progress, a small indentation will usually appear, preserving the form of the incision.

" Hitherto the appearance is very similar to the small-pox, and in some cases cannot be distinguished from it. But from this time the difference is easily marked, excepting in one kind of small-pox, which has been already noticed. In all others, the inoculated part, however regular it may have proved till the eighth or ninth day, now becomes jagged at its edges, and its contents grow more or less purulent. In the cow-pox, the circular form continues, or if, from the length of the puncture, the form should be more oblong, still the edges will be well defined, the contents remaining limpid.

" The external skin seems to thicken as the vesicle acquires its full size, and gradually approaches nearer to the amber colour. At other times the skin seems more transparent, and shews a blue tint beneath it. On these occasions the vesicle is flatter. This difference appears to arise from a higher degree of inflammation, in consequence of which the surface below is fuller of vessels conveying red blood, and affords a purplish appearance through the cuticle and lymph.

" On one of these, or the following day, a considerable redness appears round the vesicle ; this has been very properly denominated by Dr Jenner the *areola*, or *small area*, round the vesicle. If this redness, or areola, has a well-marked edge at the extremity, it never exceeds the boundary it first formed for itself ; but if it is deepest immediately round the vesicle, and shaded from thence, its extent is much more uncertain ; though, from the eighth or ninth day, the skin appears to thicken, and the vesicle to flatten, excepting round the edge, yet the contents are still limpid. The edge now forms a rim higher than the centre, so that the whole has been very well compared to a ripe mallow-seed. The surrounding redness ceases from day to day, the margin of the mallow-seed shrivels, the centre acquiring a crustaceous, and afterwards a stony hardness, at the same time gradually contracting itself, particularly round its extremities, so that the centre is generally most elevated, and the whole scarcely fills the little cavity in which it is contained. In this state it has been compared to a tamarind stone. This illustration, though for the most part correct, is less so than that of the mallow-seed, because the appearance of the scab is more various. It is, however, if uninterrupted, constantly stony, but varies in colour as much as the different shades of mahogany. In this state it remains sometimes for two or three weeks, and when it falls off, leaves a scar, which, though not so deep, has, in all the cases I have seen, proved permanent like the small-pox. From the latter it differs not only in being more superficial, but in being marked with small and somewhat regular indentations." p. 112-18.

During the progress, Dr A. recommends a purgative about the sixth day, to be repeated according to circumstances, whilst the areola is forming. "Two or three gentle purges," he says, giving Priscian a broken head by the way, "at the interval of a few days, *is* never hurtful to a strong subject." With delicate children some caution is necessary. We apprehend that this purging is recommended rather in compliance with old *humoral* prejudices, than from experience of any ill effects from the omission of it.

The concluding chapter treats of some "deviations from the customary laws of vaccination." Whenever it is difficult to ascertain on the third day, by the marks before described, whether the inoculation has proved successful, the general health should be examined. If there is any feverishness, probably some other eruptive disease is coming on. At all events, the inoculation should be repeated; and it will often happen, that the first will now begin its progress, and both will go through the regular stages together. Sometimes after proceeding regularly to a certain height, the inoculated part will suddenly assume a purulent appearance: whenever such purulence comes on, from whatever cause, it is absolutely necessary to vaccinate again. The constitution cannot be secured unless the vesicle has gone through all its regular stages. These are the cases which have brought vaccination into the greatest discredit.

If we have extended this article to a length disproportionate to the value of the work before us, the great importance of the subject must plead our excuse. Did we not know how much interest has concurred with prejudice in fostering the fatal and never-dying pestilence, and that its frequency has made its ravages familiar, its cherished existence, when an antidote is in our power, could not "overcome us, like a summer-cloud, without our special wonder." It will now, however, be a work of time to eradicate these prejudices from the public mind; and we feel it our duty to condemn, in the mean time, in the severest terms, every work that tends, directly or indirectly, to encourage those prejudices, by representing the small-pox in a favourable light; and more especially when this representation comes upon us where it is not expected, from a professed friend of the cow-pox, and in a professed treatise in favour of the latter disease alone.

An appendix contains the report of the College of Physicians, &c.; and six plates are subjoined, representing the progress of the vaccine vesicles, and the *pearl* small-pox.

II.

An Essay on Hydrocephalus Acutus; or, Dropsy of the Brain. By JOHN CHEYNE, M. D. Edin. 1808. 8vo. Pp. 218.

ALTHOUGH the more prominent and characteristic features of hydrocephalus acutus have been fully and accurately described by former writers, the history of the disease still remained, in many respects, imperfect. Its antecedents, and even the symptoms which often mark its insidious and gradual approach, and earlier progress, had not been well observed. The occasional causes of the disease have been mistaken, or over-rated, and very false notions of its pathology have been entertained. Hence the disease has been considered either as a dropsy, or as a phrenitic affection of the brain; and the method of treatment has been consequently vacillating and uncertain, and every one knows but too well how unsuccessful. The object of the essay before us is to supply some of these defects; and we have no hesitation in saying, that Dr Cheyne has added considerably to the facts which serve to complete the history of this interesting and fatal disease. Some of his pathological observations also are important; but the general view of the pathology of this disease seems still embarrassed and imperfect, and the treatment of the disease, once formed, still where it was. But, as is well observed by the ingenious author, "we are only in the stage of collection, and not advanced, as yet, to that of theory." It is, then, on the very excellent history of the disease, on the numerous and well-related clinical cases, and the results inferred from these, that the merits of this performance must rest. But we would more particularly direct our readers' attention to the various modes of attack which distinguish the incipient forms of hydrocephalus, and to the connexion between the hydrocephalic symptoms, and the disordered state of the hepatic and chylopoietic viscera. Of the incipient forms of hydrocephalus acutus, Dr Cheyne has distinguished three.—In the first, before any characteristic symptoms of the disease appear,

—"The child, for some days, or even weeks, has complained of pains in his head or belly, while, at the same time, he has been slightly feverish, dull, ill-complexioned, without appetite, or, perhaps, with an increased appetite, and with considerable disorder of all the functions of the abdominal viscera. These complaints arise gradually, but are seldom alarming; and the child's friends are not awakened to a sense of his danger until, advancing a step farther, the commencement of a peculiar disease has more distinctly shown itself. The dullness and severe pains in his head are now accompanied, perhaps, upon getting up in the morning, or after he has begun to stir about, with vomiting. Yet even this symptom is often disregarded until the second or third day of its recurrence, and the disease has made considerable progress before the illness of the patient is suspected to arise from a disordered condition of the brain. When the attention is more particularly excited by these symptoms, the headach (chiefly in the forehead) will be found to return at shorter intervals. The child often affectingly complains of his head. He sighs frequently, is dull, his head requires to be supported; he complains of weariness in his eyes; the pupils sometimes appear unusually contracted, and he has an aversion to light. His tongue is white, and his belly generally costive; the stools are at first clayey; as the disease advances, they become of a gelatinous consistence, dark green, of a sickly smell, sometimes as dark as tar. The pulse becomes quick, and, at particular times of the day, these symptoms are attended with febrile heat and irritability, and the child complains not only of headach, but of pains in different parts of the body, sometimes astonishingly acute. At one time he complains of pains in his limbs, at another, of pains in his breast, or in the nape of the neck, very often in his bowels; and before the anxiety of his friends can make any preparations to relieve him, the pain is gone, or fled to some other part; at another time, he for a long time lies on his mother's knee, restless and whining, as from dull rheumatic pains. These disorders cannot continue without impairing the child's strength; and accordingly, in ten days or a fortnight, the period usually occupied by the first stage of this attack, he is altered in appearance; in his manner he has become feverish and undecided, his hand tremulous, and his gait tottering."

"In the second form of the attack, the disease runs a more rapid course. This does not occur so frequently, yet it is well entitled to the attention of every one wishing to gain a clear conception of hydrocephalus. After the child has been drooping for a short time, which, although it sometimes escapes observation, is generally recollected, there is a sudden change to a fever, attended, even from the first, with a great degree of pyrexia, with frequent, but short and irregular remissions, flushing, severe headach, tenderness all over the abdomen, and increased sensibility, with sometimes brilliancy of the eyes. It is said to be often difficult immediately to distinguish hydrocephalus from fever; and this is the form of the disease in which there is the greatest resemblance between the two diseases; but we are led to suspect some deeply-seated evil, from the frantic screams and complaints of the head and belly, alternating with stupor, or rather lowness; and we are struck with the irritability of the stomach, in a degree beyond what we find in fevers of this country, retching and vomiting being often brought on by a change of posture, certainly by every attempt to sit up in bed; and with the disordered state of the bowels which attends this irritability of the stomach. And when, at any time, the child has a little respite from the violence of these symptoms, we find our suspicion confirmed by his look; for in this disease, when the features do not express pain or terror, there is not unfrequently an expression, which it has in common with some other diseases of the brain, of dejection bordering upon insensibility, which is quite insupportable to those who are interested in his recovery."

The third mode of attack our author has observed less frequently than the first, but more so than the second.

"It may be considered as an instance of that conversion of diseases, which arises either from the excess or combination of the symptoms of the original complaint, operating upon a habit favourable to the new disorder, or perhaps from the state of the habit produced by the primary giving rise to the consequential disease. When hydrocephalus arises after an imperfect state of health, as where there had been a scrofulous action which has abated; or where from predisposition and the anomalism of the symptoms, such action is looked for; or where the child has had some epidemic disease formerly, (perhaps many months before) from which he has not perfectly recovered, or regained sound health; the attack is sometimes made with all the violence which I have described as distinguishing the second form. When again the attack comes on as the sequel of an acute disease or fever, hooping-cough, perhaps dentition, or during some actually existing scrofulous disease, then the child almost imperceptibly slips into hydrocephalus; there are scarcely any of the acute symptoms; and the palsies or convulsions are the first indication of the new disorder."

We have thought these descriptions of the modes of attack of so much importance, that we have given them in the author's words. It is by attending to these, that the disease can be detected in its earlier stages, and when it is most under the controul of art. Our author then goes on to complete the general history of the disease. The three stages marked by Dr White, as distinguished by the changes of the pulse, he thinks may be more usefully retained under some change of character. The 1st as the stage of increased sensibility; the 2d the stage of decreased sensibility; the 3d the paralytic, or convulsed stage.

"In the first stage, every stimulus produces a sensation more than proportioned to its common effects. There is great aversion to light, and to sounds; there is watching, sickness, pain, a quick pulse. In the second stage, the child is not easily roused, his pupil is dilated, his pulse slow, he is lethargic, with often an obstinately costive belly. In the third stage, which perhaps may be considered as a continuation of the second, there is squinting, rolling of the head, raving, stupor, convulsions, with a rapid thready pulse."

Amongst the causes of hydrocephalus, there is none perhaps of greater moment than that which depends upon a deranged state of the abdominal viscera, upon a morbid state especially of the liver and alimentary canal. The subject is accordingly investigated with great minuteness, and many facts and observations are brought forward in proof of the intimate connection between these disorders of the primæ viæ and this dangerous disease of the head; such are the well known association between the actions of these organs; the great disorder observed in the chylopoietic viscera, often for weeks before the appearance of characteristic hydrocephalic symptoms; the removal of well marked symptoms of hydrocephalus by the use of purgatives, and other remedies directed to the bowels; the tenderness of the region of the liver, remarked by the author in children under hydrocephalus; the remains of great inflammatory action in this viscus, observed by him after death; and the very peculiar stools which belong to the disease, indicating a changed state of the biliary secretion.

The appearances on dissection after death from hydrocephalus, are thus concisely stated;

> "We generally find within the cranium the veins, particularly those of the membranes on the surface of the brain and lining of the ventricles, gorged with dark blood; sometimes considerable adhesions between thickening of the membranes, and minute and florid vessels upon the pia mater. The ventricles we find to contain from two to six ounces of limpid serum; also fluid in a small quantity under the tunica arachnoides, both above and at the base of the brain. The substance of the brain is generally soft and blanched, fimbriated, and particularly soft where it forms the ventricles. The substance of the fornix is often like a soft curd. In the abdomen, I have found the intestines inflamed and constricted from spasm, and the surface of the liver of a bright red colour, abounding in minute vessels; and sometimes extensively adhering to the peritonæum. In several dissections, I have found the surface of the liver studded with small white tubercles, not larger than a grain of mustard. The glands of the mesentery are often diseased, as is evinced by their enlargement, and the caseous depositions which we find in the substance of the glands."

In investigating the pathology of hydrocephalus, the opinions of Whyte, Quin, and Rush, are stated and canvassed with much judgment and candour.

The effusion of water, whence the disease has derived its name, is evidently the effect of the disease, and not its cause.

In some cases no effusion has been detected; and it is probable that in every case the effusion does not take place, but in the latter stages of the disease.

The action which takes place in hydrocephalus, is shewn to be very different from the inflammation of phrenitis; the opinion of Dr Quin seems to appproach nearer the truth; but it is observed by Dr Cheyne, that there is some change prior to the morbid accumulation of blood, "there must be an active before there is a passive state." He is inclined to think that the morbid action in the brain is specific; that excitement first takes place, then increased vascular action, congestion, and effusion.

> "That in this disease there is produced a venous congestion, in addition to, and probably arising from the increased arterial action: that the effusion of serous fluid arises from this venous congestion: that this effusion has a tendency to counteract the baleful effects of the increased action, and to retard the fatal termination of the disease; of course, that the effusion into the ventricles is not the cause of the violent symptoms; and that the increased arterial action, though perhaps varied, does not cease when the congestion and effusion have taken place."

The stage of torpor he supposes to commence with the congestion of the venous system. Effusion is not considered as the cause of death, because large effusions of serous fluid have long subsisted with the continuance of life, as in chronic hydrocephalus.

> "It is the morbid action of the blood-vessels wasting the brain, and unfitting it for its functions, which destroys the child; and I think it no rash opinion that death would occur earlier in the disease, did not the fluid exude, and thus continue to the brain the necessary degree of support from within, which would have been lost by the wasting of the organ."

This, however, we are disposed to consider merely as a bold and ingenious hypothesis. The author has at least shewn, that the presence of water in the ventricles is not necessarily fatal to life; though in some of the instances it should be remarked, that the pressure from the fluid may have been obviated by the separation of the bones, and enlargement of the head, as in chronic hydrocephalus; and in other instances it is impossible to say how long the water had been effused before the cessation of life, or if in some it had not been the immediate cause of death. The stage of excitement and increased sensibility, has been attributed by Dr Cheyne to the increased vascular action; the stage of torpor to the congestion in the veins; and is it not highly probable, that the paralytic and convulsive stage, which ushers in the death of the patient, marks the effusion into the ventricles?

Having recapitulated the pathological facts unconnected with hypothesis, and observed that we are at present ignorant of any way of subduing hydrocephalus, without the substitution of another constitutional irritation, Dr Cheyne proceeds to the treatment of the disease. The indications of cure laid down by him are,

—"To remove from the constitution every irritation which either may have given rise to, or may have assisted, by morbid sympathy, in prolonging the diseased action in the brain;—to subdue the hydrocephalic action, *1st*, by diminishing the increased activity of the circulation within the head; *2dly*, by substituting a new action;—to alleviate pain and sickness, if ever urgent; to accept every assistance offered by counter-irritations; to support and renew the strength; to support it more particularly under any critical discharge."

The connection which is shewn to subsist between irritation in the alimentary canal, and the hydrocephalic excitement, claims, according to this view, a very early attention. Strong cathartic medicines are often required, and in most cases the very best effects may be expected from a course of purgatives.

The practice of Dr Hamilton, and the great success which has attended the use of purgatives, are already known to the public. The experience of our author confirms the utility of this treatment. His plan is, when called early, to recommend

—"the exhibition of the largest dose which can be safely prescribed, of some powerfully cathartic medicine, two, three, or four times a-day; and this continued for several days, or until natural stools are procured. The advantage of keeping the intestinal canal under the continued influence of a stimulus, I have, in various instances, found to be so great, that I am induced to repeat the declaration of my belief, that the happiest result may be expected from this measure."

The increased activity of the circulation within the head, is to be diminished by local or general blood-letting, according to the circumstances of the case; and the abstraction of blood, it is remarked, is useful on another account, to render the constitution susceptible of the powers of mercury.

From blisters he has frequently observed a remarkable mitigation of the symptoms. However, so soon as the existence of the disease becomes probable, no more time should be lost than is necessary for subduing the disorder in the bowels; we must then commence the mercurial course, which, it must be allowed, has cured hydrocephalus even when far advanced. The object of the mercurial course, is to substitute a new action or counter irritation, by which the hydrocephalic action shall be suspended or subdued: examples of which have come under our author's observation, and under that of other physicians. Digitalis is a remedy of considerable promise in this disease, from the command which it has over the circulating and absorbent systems. The author's experience of this medicine in hydrocephalus, has not been great; but he has observed it to produce a great, and in two cases he conceives a salutary influence.

A valuable collection of cases is annexed to this essay. From these cases the results and doctrines of the text have been drawn. They are of themselves important and instructive. "They were invariably drawn up in the bed-chamber of the patient, and present a faithful account of every symptom and circumstance that attended the disease."

III.

A Treatise on the Anatomy, Pathology, and Surgical Treatment of Aneurism, with Engravings. By ANTONIO SCARPA, Professor of Anatomy and Practical Surgery in the Univerity of Pavia, &c. &c. Translated from the Italian, with Notes. By JOHN HENRY WISHART, Fellow of the Royal College of Surgeons, and Member of the Royal Medical and Chirurgical Societies of Edinburgh. Edinburgh, 1808. 8vo. Pp. 503.

Of the splendid original of this classical work of the justly celebrated Scarpa, we have already laid before our readers so full an analysis, that little remains for us on this occasion, but to congratulate the public on the appearance of an English edition, and to render justice to the merits of the translator.

Seldom has a happier choice been made of a book for translation into our own language than this. The intrinsic value of the work merited the honour, the interests of surgery demanded it, as the splendid and expensive dress of the original must have prevented, in a great degree, the general diffusion of the important information which it contains. To Mr Wishart, therefore, the profession is in our opinion greatly indebted, not only for an excellent translation of the treatise on aneurism, but for having rendered it accessible to every one, by the useful and convenient form in which he has published it.

The great and leading doctrine which Scarpa has laboured to establish, is, that aneurism is invariably formed by the rupture of the proper coats of the artery, and, consequently, that the aneurismal sac is never formed by a dilatation of those coats, but by the cellular sheath, which the artery receives in common with the parts contiguous to it.

The facts and observations from which he deduces this theory, are so copious and satisfactory, that there does not seem to remain a doubt of its truth.

He has shewn, in the most satisfactory manner, by an examination even of those cases which have been brought forward as proofs of the contrary, as well as by a great many original observations, that the proper coats of the artery have always been ruptured; for the aneurismal tumour never includes the whole circumference of the artery; the aneurismal sac and the arterial canal are always separated by a septum, in some part of which the rupture of the proper coats of the artery may be seen; the muscular fibres of the artery, by a careful dissection, may be traced so far as this rupture, or communication between the arterial canal and aneurismal sac, but no further; and in the aneurismal sac itself, the proper coats of the artery are never found.

—"On which account, nothing can be more evident than that the aneurismal sac does not belong at all to the artery, and that, properly speaking, it is only the cellular sheath, which in the sound state, covered and connected the artery to the neighbouring parts, which being elevated by the effused blood, at first in the manner of an ecchymosis, then distended and compressed, has acquired that degree of density, and of additional hardness and thickness, as if it had been formed by the proper coats of the artery, prodigiously relaxed, distended, and thickened."

And this our author shews, by a more particular examination, to be the case in aneurisms of all the arteries, of the aorta itself, and of those of the second and third orders.

Every thing, indeed, relative to the anatomy and pathology of aneurism, has been so copiously and ably investigated by Scarpa, that little, perhaps, in the present state of our knowledge, could be added to, or retrenched from it. But with regard to the surgical treatment of aneurism, British surgeons have acquired in some particulars more just notions, and more enlarged views, than those of the Italian professor. We allude to the theory and practice of the ligature, and to the great confidence we now have in the powers of the higher anastomoses, from the operations of Abernethy, Freer, and Tomlinson. These, which were not known to Scarpa, have been judiciously supplied by the translator, who, in the notes, has stated the result of Dr Jones's experiments, and given an account of those operations in which the external iliac itself has been successfully tried.

It is somewhat remarkable, that Scarpa, who generally takes nature for his guide, and who, in this instance, also professes to imitate and assist her operations, should have adopted a mode of tying the arteries, founded on a principle so unlike what he had really observed to be the process of nature in the closing of arteries. He knew well that an artery, the continuity of which has been interrupted by compression or by ligature, goes through a succession of changes, from the quiescence and coagulation of the blood, to the exudation of lymph, the contraction, inflammation, and thickening of its coats, till it becomes finally converted into "a perfectly solid and ligamentous *cylinder*." He fixed his mind, however, on the inflammation only, "by means of which, the coats of the artery contract a firm adhesion to each other;" and he thought only of pressing these coats *flat* against each other, that they might form the necessary adhesion. This he directs to be done by a flattened, or tape-like ligature, and by interposing between the artery and knot a small cylinder of linen rolled up, six lines in length, and three in breadth. And thus the surgeon "is assured of obtaining the approximation of the two compressed sides of the artery, as if they were two smooth planes placed one over the other." The intention of this mode of making the ligature is to avoid the division or laceration of the proper coats of the artery, which the circular ligature produces, and thus to lessen the risk of secondary hæmorrhage. It appears, indeed, from the observation of Dessault, and from the experiments of Professor Thomson and Dr Jones, that this division of the internal coat of the artery by the ligature is a constant and necessary result, which seems in itself to secure the regularity of those successive changes by which the artery is finally closed up. And we are informed by Mr Wishart, that he has tried the mode of ligature recommended by Scarpa, and that he has invariably found, "that the proper coats of the artery are divided as well as if no roll of linen had been interposed between the artery and the knot."

We shall find the explanation, therefore, of Scarpa's success, not in the particular form and mode of ligature, but in the precaution he takes to separate and insulate the artery to no greater extent than what is absolutely necessary to admit its application. "With regard to the most proper mode of ligature," says Mr Wishart, "I think we can have no hesitation in adopting that which Mr Abernethy, and many other surgeons, have always found successful; I mean the application of two ligatures, and the division of the artery in the interspace." And the ligatures, so far from being broad and flat, ought unquestionably to be small and round.

The causes of secondary hæmorrhage, however, are often quite independent of the form and mode of ligature, and unfortunately such as cannot be obviated by any art, a diseased condition of the arteries themselves extending a great way above and below the aneurism.

"The greatest of all the obstacles," Scarpa observes, "which can oppose the success of the cure of an aneurism, especially that in the ham or in the thigh, arises undoubtedly from the rigidity, atony, or disorganization of the principal anastomoses between the superior and inferior arteries of the ham and of the leg, sometimes depending upon the advanced age of the subject, or on it, together with the large size of the inveterate aneurism, which, by the long continued pressure, has caused a great change in the neighbouring parts. It sometimes also depends upon the steatomatous, ulcerated, earthy, cartilaginous disorganization of the proper coats of the artery, which is not confined to the seat of the rupture, but extends a great way above and below the aneurism, and includes, at the same time, the principal popliteal recurrent arteries, and with these the tibial arteries, and in some cases, small spaces of the whole track of the superficial femoral artery."

Scarpa had never met with a case of aneurism situated above the origin of the profunda, nor had he ever heard of the operation being performed as it has now been performed by Abernethy and others. From reasoning, however, he concludes, that the life of the patient may be preserved even after the ligature of the common femoral artery. Where, however, the artery is ruptured below the origin of the profunda, so high up as within little more than an inch from the common trunk, he directs the incision of the aneurismal sac, and the ligature of the superficial femoral, immediately above and below the arterial rupture, there being no room for the Hunterian operation, without tying the common trunk, and cutting off the profunda, the advantage of the anastomoses of which he is anxious to preserve.

On this subject we have the following observations from Mr Wishart.

"The cases of inguinal aneurism, cured by the ligature of the external iliac artery, which have within these few years occurred in this country, fully justify, in my opinion, the answering in the affirmative the author's questions with regard to the propriety and safety of the operation of tying the femoral artery above the origin of the profunda. The success which has attended these cases naturally leads us to consider, whether, in the cases of femoral aneurism, where the rupture of the artery is supposed to be only about an inch below the origin of the profunda, it would be most expedient to adopt the method recommended by the author, of the incision of the aneurism and the ligature of the artery above and below the wound, or to proceed at once to tie the artery above the aneurism, according to Mr Hunter's method. Farther, it would also be proper to consider, whether the artery should be tied between the epigastric and profunda femoral artery, or above the origin of the former artery. With regard to this point, I am happy to be enabled to state the authority of Mr Blizard, who very politely favoured me with some remarks on this subject. He observes, that "if a choice were given of tying the artery of the lower extremity between the epigastric and profunda femoral artery, or above the epigastric, he is of opinion, that the preference ought to be given to the latter situation." He farther remarks, that "in the operation of Professor Scarpa, the artery would be tied so near to the origin of the profunda, that the artery most probably would not close."

The translator concludes his remarks with an account of the operations of Messrs Abernethy, Freer, and Tomlinson. And he has added several other pertinent notes to the appendix.

IV.

Observations on Emphysema, or the disease which arises from an Effusion of Air into the Cavity of the Thorax, or Subcutaneous Cellular Membrane. By ANDREW HALLIDAY, M.D. Member of the Royal Medical and Natural History Societies of Edinburgh, and Fellow of the Royal Highland Society of Scotland. London, 1807. 8vo. Pp. 168.

THIS little work is entitled to some notice, as containing a very good summary of the principal facts and doctrines relating to the subject of emphysema, which have never before been brought together. The state of the lungs when wounded, and the condition of the respiratory organs, when the containing parts alone of the thorax are wounded, are explained in a very perspicuous and satisfactory manner, from a consideration of the mechanism and play of these organs, and of the experiments which have been instituted by Houston, Van Swieten, and others, for the purpose of illustrating the doctrine connected therewith. Dr Halliday has collected also the most interesting cases of emphysema, which are found scattered in medical records,

cords, and he has added a few which have never before been published.

We extract the following remarkable case of emphysema, arising from the rupture of a vomica:

"James Hay, aged 25 years, a private in the Royal Artillery, stationed at Leith Fort, was brought to the Hospital about five o'clock in the afternoon of ——— 25th of May, 1805. I saw him about an hour after his admission, and noted down the following symptoms, which I have been permitted to transcribe from the Journal: He complained of very severe head-ach, vertigo, with nausea, and general pains; he had a slight cough, which excited some pain, about the superior part of the sternum; and he complained of a very painful feeling of fullness, at the Scrobiculus cordis, and which he attributed to having eaten a great quantity of hard dry cheese for his supper the night before.—His pulse was about 90, and very regular; his tongue was somewhat white, and his respiration rather laborious:—his face was flushed, and his eyes suffused, but his heat was nearly natural. He said he had felt unwell for some days, but that it was only in the afternoon of the 24th that he was seized with rigors and severe head-ach, to which, in the course of the night his other symptoms had supervened. He was very anxious for an emetic, which, at his earnest entreaty, was ordered for him.

"On the 26th, the head-ach and vertigo were considerably abated, as was also the pain at the superior part of the sternum. But early in the morning, he began to complain of great difficulty in respiring. I was called to him in a great hurry, and found him almost suffocating; I took about twenty ounces of blood from his arm, which produced a little relief—I found that the Ipecacuanha which was ordered the evening before, had not produced vomiting, but that, in the course of the night, he had had two loose motions.—At twelve o'clock, when Dr Hamilton came to the Hospital, I carried him to this patient immediately; the difficulty of breathing had become even more severe, his face was turgid, and his lips quite livid. On the Doctor's examining him attentively, he discovered not only an unusual fulness of the face, but also of the neck and breast, and when he pressed upon these parts with his hand, there was evidently a crackling noise. In about half an hour after Dr Hamilton had made these observations, he returned again to the patient. The fullness or tumour was become not only more evident, but was diffused all over the chest, and down both arms. The crackling noise on pressure was also much more distinct. He had now the greatest difficulty in respiring at all; and, before one o'clock, every part of the surface of his body was become emphysematous, except the palms of his hands, and the soles of his feet.

"A consultation of the surgeons was requested by Dr Hamilton; and as the patient appeared evidently moribund, it was agreed, that the only remaining hope was to perforate the thorax, not that they had even much to expect from the operation, yet it appeared the only manner in which his life could be saved.

" An incision was accordingly made by Dr Inglis, about half an inch in length, through the integuments, between the sixth and seventh ribs, on the left side of the thorax. The intercostal muscles were then carefully dissected, and a small opening made with the point of the scalpel through the pleura-costalis, into which a small flat silver canula was introduced.

" As soon as the opening was made into the cavity of the thorax, every distressing symptom became more severe, and the patient scarcely survived a quarter of an hour. The body was opened by my friend Mr George Bell, who was so very obliging as to favour me with the following accurate detail of the appearances on dissection.

" Air was found effused into the cellular membrane under the skin on every part of the surface of the body, except on the back part of the head, the palms of the hands, and soles of the feet. This effusion was greatest on the thorax and trunk, and least observable on the extremities :—the lungs on the left side were sound, nor indeed were there any marks of disease in the left cavity of the thorax, except that towards the spine, the pleura costalis shewed some slight marks of inflammation, and where some of the small cells were very much distended with air.

" The opening betwixt the sixth and seventh ribs, and about half way between the sternum and spine, which was made while the patient was alive, with the view of evacuating the confined air from the sac of the pleura, appeared to be about half an inch in length, as the surgeon intended it.—The mediastinum appeared rather of a looser texture than natural, and seemed as if it had been very much stretched, as did also the pericardium and surrounding parts.

" There were about six ounces of serous fluid in the pericardium, the surface of which was also in a considerable degree emphysematous, the right ventricle of the heart appeared to have been very much inflamed, for more than a third part of it was covered with coagulated lymph, in some part much thicker than the substance of the heart.

" The lungs of the right side were completely collapsed, at least very little air could be observed in the bronchial cells. Near the middle of the anterior surface of the upper lobe there was a vomica of about three inches in circumference, from which it appeared, that about four ounces of pus had very lately escaped into the sac of the pleura through an opening which would scarcely admit the head of a small silver probe ; upon blowing into the trachea, it was observed, that the air passed freely through this opening into the sac of the pleura ; from this, too, it was easy to discover the size of the vomica, and the very free communication which there was betwixt the air cells of the lungs and the cavity of the thorax.

" The other lobes of the lungs on the right side were perfectly sound.

Some of the bronchial glands were very much enlarged ; three or four of them were even about the size of a chesnut.

" The pleura costalis of both sides of the thorax shewed evident marks of inflammation in many parts, particularly towards the spine, and also where the mediastinum is joined to the sternum.

" While examining with some attention, and endeavouring to discover the opening through which the air had escaped from the cavity of the thorax, a small part of the pleura costalis, between the sixth and eighth ribs, and about three inches from the vertebræ, was discovered, with the appearance of being more inflamed than any other part, and nearly in the centre of this small spot an opening was detected, through which the pleura and cellular membrane were easily inflated.

" In addition to these circumstances, I learnt afterwards from this patient's sister, that about three months previous to his coming into the Hospital, he was at a country fair, where he got considerably intoxicated with spirits ; and on his way home, lay down by the road side and fell asleep. That, in consequence of this, he had a very severe attack of pneumonia, for which he was repeatedly bled, and from which he recovered very slowly. He had complained for several weeks of difficulty of breathing ; and, on the evening before he was attacked with the complaint for which he was sent to the Hospital, he had been using violent exercise with a large forge hammer."

V.

Essays on the Morbid Anatomy of the Human Eye. By JAMES WARDROP, Fellow of the Royal College of Surgeons, of the Royal Medical and Chirurgical Societies, and one of the Surgeons to the Public Dispensary of Edinburgh. Illustrated by Plates. Edinburgh, 1808. 8vo. Pp. 159.

THE object proposed by the ingenious author of these essays, is to describe the various morbid alterations in the structure of the human eye, and to illustrate by engravings those which are most remarkable. The importance of such a work is sufficiently obvious ; nothing having contributed more to enlarge our knowledge of diseases, and to improve the diagnostic part of medicine, than the study of morbid anatomy. If the morbid anatomy of the eye has been hitherto, in some measure, overlooked, it is fortunate at least that the subject has now been undertaken by one, whose opportunities of observation, whose zeal, and professional talents, so well qualify him for the task. It is difficult, perhaps impossible, by the unassisted powers of language, to convey to others precise and accurate ideas of all the morbid changes of an organ so delicate and so varied in its structure as the eye; our author has therefore most happily availed himself of the pencil of Mr Syme. Of these engravings, we could not say too much. But what is most to be desired in pathological drawings, they possess to the fullest extent,—striking and just representation; and with much beauty, "there is a truth and accuracy in the colouring, which is seldom to be met with in works of this kind."

The plan intended to be pursued in these essays, is explained in a well written preliminary discourse.

The different organs are made up of a variety of elementary parts, or textures. The properties of these textures have been ably analysed by the celebrated Bichât; they differ both in health and disease; and the symptoms or morbid changes are shewn to be uniformly the same in textures of a similar structure, in whatever part of the body these structures are found. Thus the serous membranes have everywhere one common character when affected with disease; so also have the mucous membranes, whether we observe them in the mouth, the nose, the vagina, urethra, or covering the eye-ball: and so of the other textures which enter into the composition of our bodies. Besides the symptoms or morbid changes depending on the nature of the different textures, there are others which are accessory, and depend on the functions of the particular organs in which the diseased texture exists. Thus the symptoms of disease may be resolved into two classes, the first general, and characterising a whole genus of textures; the second accessory, depending upon the relative situation, or particular functions of the organ, into the composition of which the affected texture enters.

> "The external covering of the eye-ball, eye-lids, and lacrymal passages, or conjunctiva, being a *mucous* membrane, we will find that it is subject to all the diseases of the mucous membranes in other parts of the body. The diseases of the cellular membrane, which lies underneath the conjunctiva, are analogous to those of the cellular membrane in other organs. The sclerotic coat, the iris, the choroid coat, the crystalline lens, the optic nerve, the retina, and the different parts which compose the cornea, are also liable to morbid changes similar to those of the textures in other organs to which they are analogous, the various phenomena being more or less modified from the peculiarity of the functions of the organ."

Agreeably to this view, the author proposes, in the descriptions he is to give of the diseases of the eye, to divide them into two classes; the first containing an account of the morbid changes of each separate structure, the diseases, viz. of the cornea, iris, aqueous, vitreous, and crystalline humours, optic nerve, and retina; choroid coat, sclerotic coat, conjunctiva, and cellular membrane, tarsi and palpebræ, lacrymal gland, and caruncle; the second containing an account of those diseases which have a specific character, in whatever structure they appear, or which, when they attack the eye, affect a greater or a less number of its different parts at the same time: such diseases are rheumatism, cancer, scrofula, lues venerea, &c. The diseases of the cornea only are described in the present volume. These are inflammation of the cornea, the pterygium, fleshy excrescences of the cornea, pustules of the cornea, abscess of the cornea and anterior chamber, ulcers and wounds of the cornea, foreign bodies adhering to it, ossification of the cornea, specks, staphyloma, alterations in the form of the cornea, and effusion of blood between its lamellæ and into the anterior chamber.

The cornea, it is observed, has a structure peculiar to itself, being composed of a number of concentric cellular lamellæ, in the cells of which is deposited a peculiar fluid. But it is also covered externally by a continuation of the conjunctiva, which belongs to the class of mucous membranes; and it is lined internally by a membrane, the tunica humoris aquei, which seems to belong to the serous class.

Inflammation is accordingly considered under three separate heads: first, as affecting the conjunctiva; second, the substance of the cornea; and third, the membrane which lines the internal surface of the cornea.

Inflammation of the conjunctiva covering the cornea is commonly extended from the conjunctiva of the white of the eye. But, in other instances, inflammation commences on the conjunctiva of the cornea, and is almost entirely confined to it alone. In this case, it much resembles a speck, or it may be mistaken for a pustule of the membrane.

> "Inflammation of the conjunctiva of the cornea begins at the circumference, and gradually extends from this over the surface of the cornea, whereas a speck commonly commences at the centre of the cornea, or at some distance from its circumference, and extends in every direction from that point. In the inflammation of the conjunctiva covering the cornea, the opaque part becomes elevated above the natural surface of the cornea, and is highly vascular; whereas in speck, the form of the cornea remains unaltered; and, although one or more vascular trunks advance to the speck, yet the distribution of their branches becomes, in general, imperceptible."

This opaque and elevated spot is the most remarkable symptom of inflammation of the conjunctiva of the cornea.

—" The blood-vessels in the inflamed part are of a bright scarlet colour, run in a straight direction, and are more numerous towards the diseased spot, some of them being ramified through it. This opaque spot gradually extends across the cornea, acquiring, as it proceeds, an oblong form, with a rounded obtuse point. It continues elevated above the natural surface, is distinctly defined, and remains nearly of the same breadth till it reaches the centre of the cornea. If it passes beyond this, it becomes broader, and the breadth increases as it extends; but I have never, in any instance, observed it pass as far as the opposite edge of the cornea. The degree of vascularity also increases in proportion as the spot becomes larger; and if a magnifying glass be used, the whole of the diseased part will be seen crowded with red vessels."

Inflammation of the *proper substance of the cornea* is accompanied by more or less fever, pain, intolerance of light, lacrymation and impaired vision. The cornea is dim and clouded, the vessels are observed passing in straight lines from the circumference to the centre, and giving off ramifications at very acute angles. In the progress of the disease,

—" the red vessels of the sclerotic coat and cornea increase in size and in number, change in colour, and are distributed in a different manner. Instead of running in straight lines, and sending off their branches at acute angles, they become tortuous, anastomose, and form net-works. The bright colour changes into a darker and more purple hue, and the eye appears as if glazed, losing all its lustre and expression."

The vessels also in this inflammation are observed to lie deep, so that when an attempt is made to divide them, they cannot be easily raised from the cornea or sclerotica with the forceps, a part of which it is necessary to remove, in order to complete the division.

Inflammation of the membrane lining the internal surface of the cornea, is a case which our author has not distinctly observed without a simultaneous disease of the other membranes. But

—" in cases of ophthalmia from lues venerea, there is often a peculiar muddiness of the cornea, apparently deep-seated, followed by the effusion of lymph between the cornea and iris; and it is by no means improbable, that, in these cases, the lymph has been effused, and the opacity of the cornea been produced by the inflammation of the internal layer. I have also frequently observed cases where the iris and internal surface of the cornea had formed adhesions, in which the substance of the cornea did not appear to have been inflamed. The inflammation, or at least some of the morbid changes of the internal layer, may also be concerned in the cases where the quantity of the aqueous humour is either increased or diminished; and it must often participate in the inflammation which originates in the proper substance, or in the external covering of the cornea."

We do not propose to follow Mr Wardrop any farther in his account of the other morbid changes of the cornea. The description of morbid structures little admits of abbreviation or analysis. We have made our readers acquainted with the author's plan, and have nearly said enough to give them some notion of the merit of the work itself. We add, however, the following extracts:

Ossification of the Cornea.—" A very curious case of a piece of bony matter which was formed in the substance of the cornea, or immediately behind it, was communicated to me by Mr Anderson, surgeon at Inverary: " The patient was a woman of about 31 years of age. Upon carefully examining her right eye, I observed a substance of a whitish appearance in the under part of the globe of the eye, arising from the inside of the sclerotic coat, and extending upwards, below the cornea, over a great part of the iris, to very near the pupil. It had seemingly communicated much irritation to the eye, and induced a degree of inflammation, severe pain, almost a constant flow of tears, inability to bear the light, with a considerable diminution of sight. The ball of the eye performed its natural rotatory motion, but was less in size than the left eye. This complaint had been occasioned fifteen years ago, by a fall at the root of a tree, by which one of the roots struck against her right eye, but did not cut any part of it. From this period, the said substance had begun to grow, and gradually increased in size; but the pain in the eye, and other symptoms, were sufferable, until about nine months ago, when the complaint became more violent. I advised her to submit to an operation, for the purpose of extracting the hard substance that appeared to injure her eye, to which she readily agreed. I made an incision into the cornea, in the manner recommended for the extraction of the cataract, then raised the flap of the cornea with a flat crooked probe, and with the same instrument, turned out a small piece of bone. The upper part of the bone was as thin as a piece of paper, at the under part it was thicker, porous, and brittle; of an irregular semilunar form, and about the size of half an ordinary silver sixpence. The upper part was quite detached, but the under part slightly adhered to some part of the globe out of sight; but it was easily extracted without requiring the use of the knife to separate its adhesions. From the unsteadiness of the patient, she would not permit me to examine from what part the ossification originated. I am consequently at a loss whether to suppose it took its growth from any of the coats of the eye, or if any osseous matter might, in consequence of the accident, collect within the said coats, and, in the course of fifteen years, form a complete bone." p. 73.

Appearances of specks on dissection.—"When the cornea has been much more opaque, no other change is to be perceived after death, than a diminution of the transparency either of the external lamellæ, or of the whole substance of the cornea. I have had many opportunities, in the living body, of taking off layers of very opaque specks, and I have never been able to observe any other change, except that, in some of those which have been of long duration, the cornea had acquired a degree of hardness much greater than that of a sound cornea. In most cases, too, a speck bleeds when a piece of it is removed in the living body; and I have observed this happen even when no red vessels passing into it could be detected by the naked eye. An incision in the healthy cornea gives little or no uneasiness, but when the portion of a speck is removed, it often excites acute pain." p. 92.

Alterations in the form of the cornea.—"Levéillé, the French translator of Scarpa's work on the diseases of the eye, has described a case where the cornea of both eyes became of a conical form. Two examples of a similar disease have fallen within my own observation; but only one eye was affected in each of them. In both cases the conical figure of the cornea was very remarkable, and the apex of the cone was in the centre of the cornea. When the eye was viewed laterally, the apex resembled a piece of solid crystal, and when looked at directly opposite, it had a transparent sparkling appearance, which prevented the pupil from being distinctly seen.

"One of these cases occurred in a lady upwards of thirty years of age, and the changes produced in her vision were very remarkable. At one, or one and a half inch distance, she could distinguish small objects distinctly, when held towards the temporal angle of the eye, although it required considerable exertion: but the sphere of vision was very limited. On looking through a small hole in a card, she could distinguish objects held very close to the eye, and could even read a book. At any distance greater than two inches, vision was very indistinct, and, at a few feet, she could neither judge of the distance nor the form of an object. When she looked at a luminous body at a distance from her eye, such as a candle, it was multiplied five or six times, and all the images were more or less indistinct. She could never find any glass sufficiently concave to assist her vision. She did not remark this complaint in her eye until she was about sixteen years of age, and she does not think that it has undergone any change since that time.

"On mentioning to my ingenious friend Dr Brewster this case, which appeared to me so remarkable, he had the politeness to examine the eye, and to favour me with the following letter, giving a most satisfactory and philosophical explanation of all the phenomena.

"When you first mentioned to me the case of Miss ———, I was much surprised at the number of images which she observed round luminous objects. As this multiplication of images could arise only from some irregularity in the cornea or crystalline lens, which gave their surface the form of a polyhedron, it was completely inexplicable from the shape of the cornea itself, which your drawing represented as a regular surface, resembling very much that of a hyperboloid ; for the only indistinctness occasioned by a cornea of this form, would arise from the concentration of the rays before they fell upon the retina. When I had the pleasure of examining the eye itself, the difficulty of explanation was in no respect diminished. In every aspect in which the cornea could be viewed, its section appeared to be a regular curve, increasing in curvature towards the vertex ; a form which could produce no derangement in the refraction of the incident rays. As the disease was evidently seated in the cornea, which projected to an unnatural distance, it did not seem probable that there was any defect in the structure of the crystalline lens. I was therefore led to believe, that the broken and indistinct images which appeared to encircle luminous objects, arose from some eminences in the cornea, which could not be detected by a lateral view of the eye, but which might be rendered visible by the changes which they induced upon the image of a luminous object that was made to traverse the surface of the cornea. I therefore held a candle at the distance of fifteen inches from the cornea, and keeping my eye in the direction of the reflected rays, I observed the variations in the size and form of the image of the candle. The reflected image regularly decreased when it passed over the most convex parts of the cornea ; but when it came to the part nearest the nose, it alternately expanded and contracted, and suffered such derangements, as to indicate the presence of a number of spherical eminences and depressions, which sufficiently accounted for the broken and multiplied images of luminous objects." p. 118.

The fine plates which adorn and illustrate this Essay are seven in number ; but as there are three drawings in each plate, we have accurate and beautiful delineations of twenty-one different morbid appearances, viz. of inflammation of the conjunctiva,—inflammation of the cornea and sclerotic coat,—pustular inflammation,—inflammation of the conjunctiva of the cornea,—ulcer of the cornea,—death of the cornea from lime,—membranous pterygium,—common triangular pterygium,—fleshy pterygium,—tumour of the conjunctiva, with hair growing from it,—purulent matter in the anterior chamber, with opacity of the cornea,—deep ulcer, with thickening of the cornea,—obscurity of the cornea, accompanied with entropeon,—circumscribed speck, with a blood-vessel passing into it,—pearl coloured speck, with adhesion of the iris, and contracted pupil,—undefined speck, with adhesion of the iris,—complete staphyloma of the cornea,—partial staphyloma,—conical formed cornea,—cornea distended from hydrophthalmia,—and a map of the blood-vessels of a staphyloma.

A plan so well begun will, we hope, be prosecuted by our author. It is his intention, we are informed, if the public shall approve of this Essay, to consider the remaining diseases of the eye and its appendages, and the treatment which such diseases require.

VI.

Observations on the effects of Evacuating the Aqueous Humour in Inflammation of the Eyes, and on the changes produced in the Transparency of the Cornea, from the increase or diminution of the contents of the Eye-ball. By JAMES WARDROP, Fellow of the Royal College of Surgeons of Edinburgh. Edinburgh, 1807. 8vo. 15 pages. Stitched.

THIS is a republication of the ingenious paper inserted by Mr Wardrop in the 3d Vol. of this Journal, with the addition of another interesting case, so illustrative of the safety and advantage of the incision of the cornea in alleviating the violence of inflammation in ophthalmia, that we cannot refrain from laying it before our readers.

" While a strong healthy workman was employed hammering melted iron, a piece of it fell into the eye, and was found lying between the eye-ball and under eye-lid. It occasioned most excruciating pain; and although it was removed in a few minutes, violent inflammation succeeded; and in four days after the accident he came to Edinburgh. The whole conjunctiva was then very much inflamed, and it was so much swelled, that the cornea appeared as if depressed. There was a white slough towards the inferior part of the sclerotic coat, and on the corresponding portion of the internal palpebral membrane; but the cornea was not injured, nor its transparency diminished. He complained of great pain in the ball of the eye, extending over the forehead, and through the whole side of the head. He could not raise the upper eye-lid without the assistance of his finger. Light gave considerable uneasiness, and his vision was so much destroyed, that he could only distinguish between light and darkness. In this situation I discharged the aqueous humour by making a small opening through the transparent cornea. The operation occasioned a smarting pain, which lasted a few seconds. When it went off, he said he could open the eye-lid much easier; and was surprised to find that he could distinguish the furniture of the room, and books in a library. Slight scarifications were afterwards made on the under eye-lid, which bled freely; and he was advised to use fomentations to the temples and adjacent parts; and as his pulse was frequent and full, he was bled at the arm, and ordered a brisk purge. During the day the pain of the eye-ball was much alleviated, and that of the head was completely removed, except an uneasy sensation still remaining in the brow. On the day following there was no vestige of the wound of the cornea; the pain and the swelling of the conjunctiva was nearly gone, but the redness continued. His vision was quite distinct, but the eye was irritable. In three days, by the application of an opiate, the inflammation was completely removed, his vision perfectly restored, and he returned home complaining merely of a little tenderness. Since which he has remained well."

The utility of this practice has since been confirmed by the experience of Mr Ware.

VII.

Remarks on the Purulent Ophthalmy which has lately been epidemical in this Country. By JAMES WARE, Surgeon, F. R. S. London, 1808. 8vo. Pp. 57.

IN this little tract we are presented by Mr Ware with a few observations on that violent and destructive species of ophthalmia, which has lately prevailed so dreadfully in some of our regiments, and in different parts of the kingdom. Mr Ware does not think the appellation of Egyptian ophthalmia correct, because " an ophthalmy precisely similar in its symptoms and progress, has appeared long ago in this and other countries, and has been described by various authors, ancient as well as modern." He therefore proposes the term purulent, as descriptive of one of its most striking and constant symptoms; but though such a disease has often been observed and described, we do not recollect any example of this very destructive ophthalmy being so widely diffused, and so evidently propagated by contagion as in the late instances. We must however recollect, that this epidemic appeared in this country after the return of our troops from Egypt; that our soldiers chiefly have since suffered from it; and that, on its appearance in particular regiments, it has been distinctly traced to the original source. Thus the infection was carried to the 52d regiment, by recruits from Ireland, who had formerly been affected with the disease, which they had contracted from soldiers who had suffered from it in Egypt and in the Mediterranean.

This ophthalmia certainly resembles in many particulars the purulent ophthalmy already so fully described by Mr Ware, as occurring in infants; and still more closely, perhaps, the gonorrhæal ophthalmia. This resemblance has suggested to our experienced author an idea, that the two diseases bear a close relation one to the other. The purulent ophthalmia, commonly called Egyptian, he thinks is in general communicated by the application of a peculiar poison to the tunica conjunctiva.

—" Infants," he observes, " as well as adults, are subject to the purulent ophthalmy; and it is a fact well deserving notice, that some of the worst cases of this disorder that have occurred in infants, have happened in those where mothers were subject to an acrimonious discharge from the vagina, at the time the infants were born. Some of the worst cases also that have occured in adults, have happened in those who either shortly before the attack of the ophthalmy, or at that very time, laboured under either a gonorrhæa or gleet."

He does not assert that every case is derived from these sources; the morbid poison may be, and is frequently communicated from a diseased eye;

—" But," he adds, " in the far greater number of adults whom I have seen affected by it, if the disorder had not been produced by the application of morbid matter from a diseased eye, I have been able to trace a connection between the ophthalmy, and some degree of morbid affection in the urinary canal."

The most characteristic symptoms of this species of ophthalmia, are the profuse purulent discharge, the tumefaction of the conjunctiva, and the disposition to rupture of the cornea. On each of these symptoms we have some observations from Mr Ware; but the principal object of this publication, is to recommend some innovations in the method of treatment. After noticing the necessity of evacuations, and the great quantity of blood which it has been necessary to abstract in this disease, and reminding us of the analogy between this and the purulent ophthalmy of infants, in which the application of astringents to the eye has been so very successful, he insists on the utility of similar local means in the purulent ophthalmy of adults. The lotion particularly recommended, is the diluted aqua camphorata of Bates, or a solution of the sulphate of copper, in the proportion of one grain of the sulphate to an ounce of water. Thus,

℞ Cupri Vitriolat.
Bol. Armen. gr. viij.
Camphor. ℈ ij. m. et affunde
Aquæ bullientis ℥ viij.

When settled, the clear solution is to be poured off; and a little of it should be injected very frequently, (once an hour in bad cases) between the palpebræ and eye, by means of a blunt pointed syringe. The strength of the solution may be diminished or increased, according to the circumstances of the case.

The other remedy to which Mr Ware wishes to direct the attention of his readers, is the discharge of the aqueous humour, by incising the cornea in such a part, that the transmission of light through the pupil may not afterwards be interrupted by the scar. This operation was first proposed and practised by Mr James Wardrop of Edinburgh, with the view not only of diminishing the opacity of the cornea in particular cases, but in order also to alleviate the symptoms of inflammation of the eyes. The successful result of Mr Wardrop's operations is already before the public.

This operation, it is remarked by Mr Ware, must in a particular manner be useful in the purulent ophthalmia, where the cornea is not only tense and opaque from the extreme violence of the inflammation, but where there is also the strongest reason to apprehend it is on the point of being ruptured, and becoming ulcerated. The accident is but too common in this disease, and has generally been followed by total loss of vision. When the symptoms, therefore, are running high, and the safety of the cornea is threatened, there seems every reason to believe, that the operation of Mr Wardrop would be highly beneficial, and that the destructive rupture of the cornea might be prevented by the timeous evacuation of the aqueous humour. Two cases are detailed by Mr Ware, in which this was done with great advantage. They point out also the utility of the frequent injection of the diluted aqua camphorata.

VIII.

Treatise on Pulmonary Consumption, in which a new View of the Principles of its Treatment is supported by original Observation on every Period of the Disease. To which is added an Inquiry, proving, that the Medicinal Properties of the Digitalis, or Foxglove, are diametrically opposite to what they are believed to be. By JAMES SANDERS, M. D. one of the Presidents of the Royal Medical and Royal Physical Societies of Edinburgh. 8vo. Pp. 319. Edinburgh, 1808.

THIS title-page is not calculated to excite, in a reflecting mind, any very ardent anticipations of the instruction to be derived from the perusal of the work. On the contrary, the reader is more likely to entertain a suspicion of considerable presumption on the part of the author; the result, perhaps, of an ingenuous ardour in the cause of medical science, but which a little sober experience might have corrected. The first aphorism of Hippocrates has, no doubt, been overlooked by the author, in his contempt for the authority of great names. (See his dedication.) But the reader will not fail to recollect the time, and labour, and observation, requisite for the establishment of pathological facts; the facility of deception; and hence the multitude of errors and illusions, with which the records of medicine abound. He will reflect, too, on the character and talents of those distinguished masters, from whom the received opinions of the profession have descended; and he cannot easily forget, we conceive, that these opinions have seemed to be confirmed by his own experience, and by that of his contemporaries and friends. Can it, then, he will ask, be really so easy to "prove" that the physicians of acknowledged talents, who have spent years in careful research on this topic, were the authors of errant blunders, and that the whole profession is now groping under one common deception;—so easy, that the president of a society of students has already, in his brief experience, obtained this proof? The presumption is certainly against him. At all events, there is but too much cause for scepticism in medicine; and the author who attempts to raise a cloud of doubt around the doctrines of his predecessors, necessarily involves his own novelties in tenfold obscurity.

This treatise consists of two parts; the first of which relates to pulmonary consumption; and the latter contains the evidence, which is to overturn the general belief respecting the nature and powers of digitalis.

In the first part of the work, the author somewhat disappointed us, inasmuch as he appears to have by no means fulfilled his promise. We have really not been able to discover any new view of the principles of treatment in phthisis; nor indeed any other novelties, except what seem to our conception fanciful and incorrect. In describing the history of the disease, a detail of previous and concomitant symptoms is given, including those common to debilitated habits, of whatever temperament, and to almost every disease, which is accompanied by debility: and some strange inconsistencies are brought together. Thus, in the long account of previous symptoms, we are told, that the person of phthisical habit,

—"Can neither be greatly grieved, nor greatly exhilarated; he cannot devote himself to excess of study, to long watching, to abstinence,

stinence, nor to any privation; he can neither indulge in indolence, nor enjoy the gratification of active amusement; he cannot, in eating or drinking, exercising or resting, nor, finally, dare he, in obedience to the dictates of appetite or passion, deviate from the golden rule of mediocrity." P. 2.

Two pages farther, we are informed that

—"Very many of them become fond of convivial intercourse and intoxication, as a refuge from that occasional despondency, to which they are peculiarly liable. Some of them, for perhaps several months, proceed in an almost uninterrupted course of astonishing dissipation," &c. P. 4.

In the detail of inflammatory symptoms, and of those "indicating the presence of pus," it is said that "low delirium not rarely" accompanies the chilly fits, and "*wild* delirium not rarely" the hot fits which ensue; that "an attack of furor, like that of phrenitis," is occasionally feared; that "livid spots or petechiæ, appear all over the surface of the body;" and that the hands and face, "but very remarkably the eye-lids tumefy;" and, it is added, "in such debility, besides, there has occurred a sudden, great, and unaccountable tumefaction, most remarkable in the abdomen, which vanishes spontaneously." P. 19. Now these observations imply, either that this detail is the result of most extensive experience, which omits no casual occurrence; or that it is deduced from the examination of a few particular cases. We do not pretend to decide in which predicament the president of two societies stands.

We shall say nothing of the affectation with which his description is given, presenting, as he observes, "a truly humiliating image of miserable extenuation."—"Who can behold this, and not exclaim, What is man!" Nor shall we dwell upon all his indefinite epithets; such as "tubercles not larger than small seeds, and others of *incredible* magnitude," p. 45.; expectoration of "the most *horrid stuff*." P. 211, &c.

The concluding stage, in the author's opinion, which we deem to be really *new*, is marked by symptoms of mortification! We apprehend he means symptoms of death. It is generally, and it may be affirmed, correctly considered, that the phenomena, which mark the termination of consumption, are merely the result of the general exhaustion of the vital powers of the body, combined with those of ulceration of the lungs; and that gangrene, in its ordinary acceptation, is not among the symptoms of the disease; neither does the course and termination of phthisis resemble those of either phlegmonous or erysipelatous inflammation of external parts, to which our author compares it.

It would be a superfluous task to follow him through all his discussions, some of which are frivolous disputes about words, in which he affects a considerable degree of metaphysical discrimination, with little success. We shall content ourselves with one or two examples. Thus in Chap. III. Sect. I. he disputes the doctrine that a narrow chest, long neck, high shoulders, fine skin, are predisponent causes, or constitute a predisposition to consumption ; the disease is local, confined to the lungs, so must be the predisposition ; which he discovers to be " a relative debility in the lungs, with regard to the powers of the circulation." P. 65. Now what do we find, in these unmeaning words, but an implication, (if not a confession,) of the author's ignorance of the real state of the lungs, in persons predisposed to phthisis ; and are we not left, in fact, in the same condition as before, knowing merely that the conformation, just mentioned, is connected with a tendency to phthisis, whether as a cause or a sign, is immaterial ?

We are afterwards informed that catarrh, pneumonia, asthma, are not occasional causes of consumption ; they are parts and symptoms of the disease, p. 68. ; and " the names pneumonia and peripneumonia, are only applied to the more rapid, and violent species of phthisis," p. 89. Now what is this, but to confound all practical distinctions, and to give up every rational attempt at diagnosis ? And where is the utility in practice (to which all our speculations ultimately tend) of calling every pectoral disease a species of phthisis, because, in certain constitutions, phthisis often succeeds ? But these pulmonary disorders much more frequently occur, where no actual phthisis follows ; and phthisis often takes place where none of these affections had preceded : *i. e.* what is phthisis in one person, is not phthisis in another ; and we often see parts of the disease without the whole ; and the whole without many of its parts.

The author, being strongly impressed with the doctrines of the Brunonian school, seems to consider increased or diminished action of the circulating system, as constituting the sum total of disease. Hence he is led to maintain, that phthisis is generally a simple inflammatory disorder. Let us mark the consistency and force of his reasoning, the accuracy of his facts, and the simplicity of his language.

" In different instances, the substance of the lungs has assumed the appearance of muscle or tendon ; is signally indurated with scirrhous, osseous, and calculous formations ; is softened into adispose or gelatinous matter ; and is disfigured by hydatigenous productions !

" Though we learn from these appearances, that the lungs exhibit an infinite variety of change, which *cannot be ascribed to any of the known effects of inflammation,* it is sufficient for our present purpose, that the proofs of the ravages of local inflammation are quite convincing in the bodies of those, who have during life been unequivocally afflicted with the violence of local inflammation." P. 43, &c.

This is extraordinary logic; and adds another to the many proofs of the facility with which a preconceived notion is maintained, in spite of opposing evidence. The author then proceeds, satisfied with this *induction*, to wonder that writers have not been unanimous in adopting this definite and obvious idea respecting the common form of this pernicious malady, and to ridicule the opinions of those weak and inexperienced men, Cullen, Darwin, Rush, Willis, &c. P. 47.

Here we shall suspend our criticism on this part of the work. When we find an author, still enlisted among the students, detailing occurrences, both as preceding and accompanying phthisis, which are not described by the most accurate observers of disease, and are inconsistent with our own observation: when we see him contending for an hypothesis against evidence admitted by himself; and asserting his opinions with much dogmatism, and with a disposition to contemn some of the first authorities in physic, we lose all respect for his observation and his judgment, and the doubt, which necessarily accompanies the doctrines of inexperience, is converted into absolute incredulity.

This impression, excited by the perusal of the first part of the work, is by no means favourable to the commencement of an examination of the second part, relative to the digitalis, and "*proving*, that its medicinal properties are diametrically opposite to what they are believed to be." The impression was unfortunately corroborated at the very commencement of the essay.

"Before I commenced the study of the administration and operation of the articles of the materia medica, as a particular branch of my medical education, curiosity had made me pay some attention to the immediate effects that the tincture of the purple digitalis produced, when received into the human body. I observed, that it uniformly strengthened the arterial pulsations, and made them succeed one another more rapidly. So little was I acquainted with the views of medical men, that I believed it to be their intention to produce these effects by the medicine; afterward I was not a little surprised to learn, that this substance was deemed by authors, teachers, and practitioners, of medicine, to be a direct sedative, endowed with the most remarkable property of diminishing the momentum of the blood, and the number of pulsations in a given time." P. 189.

Now we are satisfied, that this is a careless and incorrect statement of the progress of the inquiry in the author's mind. Is it probable that he would use so active a medicine as the tincture of digitalis, before he knew any of the properties ascribed to it by authors, &c.? That he should particularly attend to its effects on the pulse, while ignorant that authors had attended to it, and had ascribed to it a certain power over the pulse? That he should first make experiments, and afterwards inquire whether any had been made by others? But to the subject.

The author brings forward the names of twenty-nine gentlemen, chiefly his fellow students, as evidence in proof of the statement, that the direct effect of digitalis is to *increase* the strength and frequency of the pulse. The dose of digitalis is no sooner swallowed, he affirms, than changes are perceptible in the arterial contractions; and, moreover, the stimulant effects of this plant are not transitory, but of different duration, according to peculiarity of constitution; and that this was the uniform result of above 2000 experiments in healthy people. He afterwards affirms, likewise, as the result of experiment, that if the use of digitalis be persevered in from day to day, it will at length induce symptoms of inflammatory disease. He thus sums up his inferences:

> "It now appeared certain, that the digitalis, taken in small doses, was a very powerful stimulant to the arterial system, and to the body in general, both in health and in disease; that it gradually induced febrile activity, on which, if the remedy was increased in the dose, or even continued, an astonishing lowness of pulse and alarming debility ensued; and that its salutary effects were all produced during this state of activity, but that the consequent debility was fraught with danger." P. 243.

Many cases are related, in which these uniform results are stated to have been observed: and the author again describes more at large the effects of the medicine.

> "It has been demonstrated, that each small dose of digitalis, taken by a person in health, increases the force and frequency of the pulse; and, if the doses are repeated, that they will induce an inflammatory action of the system; that also in disease, the first effects of digitalis, exhibited in small doses, are to increase the force and frequency of the pulse; to excite and maintain that degree of action during which sores assume the action of healing; to promote the process by which effusions are removed from any of the cavities or parts of the body; to enliven the mind, and improve the powers of voluntary motion; to invigorate digestion, and increase the evacuations by the skin, and by the urinary organs; in the meantime, the pulse is gradually attaining a febrile activity, so that from 70 or 90, if the use of the medicine is incautiously persevered in, the pulse shall be raised in a short time to 120, 130, or any number between these and 150." p. 274.

Then follow the sudden loss of strength, and the diminution of the pulse, the consequence, in the author's opinion, of this previous stimulation.

We confess that we have not been in the habit of standing by our patients, when swallowing their doses of digitalis, and counting the pulse immediately afterwards, therefore we can neither dispute nor confirm the author's statement from our personal observation. But of the results of a repetition of small doses of the medicine for many days in succession, we have had ample opportunities of observation. We have witnessed such a continued administration of the tincture of digitalis, in many cases, nay in some hundreds of patients, in hæmoptysis, in the different stages of phthisis, in severe catarrh, in dropsies, in organic diseases of the heart; and so far from finding them all thrown into high fevers, we do not recollect to have once observed such an occurrence under its use. We have generally seen hæmoptysis cease after a few doses of the medicine; a hard and dry cough, with a quick sharp pulse, heat of skin, flushed face, &c. mitigated during its repeated administration; and the palpitation, and other distressing symptoms, of disease about the heart, repeatedly relieved, under the same circumstances. And, moreover, we have heard some of our brethren, of talents and experience, acknowledge the occurrence of similar results, in their own practice. We are, then, placed in an awkward dilemma. We must discredit the observation of one party or the other, or of both: and with so powerful a drug, as digitalis, in question, it is impossible to maintain that the circumstances were altogether uninfluenced by its operation, and modified by other unobserved causes. In order to gain some satisfaction, then, as to the value of the evidence, let us cross-examine the witnesses. Dr Sanders will, doubtless, assert, that, having no particular object in view, we have made no accurate observations; that, prejudiced by the opinions of the schools, we took for granted that we saw, what we had been taught to expect; that our medicine may have been occasionally ill prepared; and that the favourable results occurred through its inefficacy. These accusations, in truth, apply but too generally to the routine of the practice of medicine. But let us look on the other side.

In common with those of our brethren, to whom we have alluded, we have an ardent desire to attain a sound experience, and to form just conclusions upon doubtful and disputed points of practice; we have had no peculiar theory which we were anxious to support; we have had no book to publish on the subject, and no wish to be the authors of novelty, or to distinguish ourselves as the leaders of a controversy: success in the administration of our medicines, and therefore an accurate knowledge of their powers, has been our only end and aim. We have probably,

bly, therefore, motives sufficient for careful observations, without discolouring them by hopes and wishes for particular results.

But what is the condition of the learned President? He is starting forth in his professional career, as an author and a discoverer. Before he commenced the study of therapeutics, or knew any thing of the opinions of physicians on the subject (excellent period for accurate observation!) he entertained the new opinion, from personal inquiry, which he has since laboured to establish. (See Treatise, &c. p. 189.) He then finds it to be in opposition to the doctrines of esteemed authors; and its establishment therefore becomes more important. His hopes are raised, his imagination is excited by the prospect of being the champion of truth, against error sanctioned by great names; in short, the corroboration of his discovery becomes the principle motive of his studies. He debates his opinion in societies, and in private meetings;—he gives digitalis-parties, and treats himself and his friends with dose after dose; and the evening is spent in the reciprocal examination of pulses. If the mind can be warped to one opinion, and prepared to distort its observation, his, according to his own account, must have arrived at no inconsiderable pitch of such a condition.

In a word, when we consider the sources respectively from which the evidence on each side comes, we are disposed not to resign all pretensions to observation on the part of the majority; nor to suppose, that they have practised from the beginning, under a blind error, and that the author of this treatise is alone correct in his investigation of the powers of medicine. We are the more disposed to this, because, in the former part of the work, his accuracy of observation, in regard to the symptoms of phthisis, as we have already stated, is more than questionable. We should, however, have given him more credit for his zeal and perseverance, had his details been stated in that unaffected simplicity of language, which a mere inquiry after truth alone requires; had he shewn a little more reverence for men, to whom medical science owes much both of its truth and its dignity; and had he respectfully confuted their authority, which he deems it sinful to admit, not with dogmatism and derision, but with the calm and complacent arguments of true philosophy.

IX.

Remarks on the Reform of the Pharmaceutical Nomenclature; and particularly on that adopted by the Edinburgh College. By JOHN BOSTOCK, M. D. late President of the Edinburgh Medical Society; Member of the London Medical and Chirurgical Societies, &c. &c. 8vo. Liverpool, 1807. Pp. 53.

WE are much indebted to Dr Bostock for this short but valuable pamphlet, in which he combats, with candour, and great knowledge of the subject, the propriety of the late changes adopted in the language of pharmacy by the Royal College of Physicians of Edinburgh, and deprecates the introduction of a reform on similar principles into England by the authority of its medical legislators.

We may state generally, that what we are disposed to consider as the late reform of pharmaceutical nomenclature, seemed naturally to arise out of the great progress of the science. Dr Bostock is of opinion, however, that it was premature, and attended with many inconveniences, if not evils. His observations on this subject either oppose all alteration of established pharmaceutical nomenclature, or in a particular manner condemn the principles upon which the late changes were made. In the former class, we may include his arguments to prove the inutility of a scientific nomenclature in pharmacy, and the dangers and inconveniences which he apprehends from any considerable change in its language; and in the latter, the awkward and inconvenient length of some of the new titles, the great importance of errors in a nomenclature constructed upon scientific principles, and the impossibility, in the present state of science, of rendering it perfect.

But before entering upon the discussion of the questions connected with this subject, we must request our readers to bear in their remembrance, that pharmacy, whether we consider it as an art or as a science, is but a branch of chemistry; that a large proportion of the officinal simples, as they are called, belong to the vegetable kingdom; that the language of pharmacy has never been stationary; that no pharmaceutical nomenclature has ever been universally adopted; that the present officinal names were once considered as systematic; that the new chemical nomenclature is universally adopted by the teachers of chemistry; that the botanical nomenclature of Linnæus is very generally adopted, and universally understood; that it has long been the custom to insert in all pharmacopœias the systematic and scientific names as synonimes to the officinal; and lastly, that the object of the reform attempted by the Edinburgh College, is to introduce into pharmacy the improved nomenclature of botany and chemistry, retaining the officinal names only as synonimes.

Having stated these preliminary observations, about which we presume there can be no difference, we shall now proceed to examine those arguments by which Dr Bostock endeavours to prove, that the alteration of pharmaceutical terms is injurious, inconvenient, and unnecessary. The principal of these we shall state in his own words.

" In the administration of medicines three sets of men are concerned, the physician or surgeon who prescribes, the apothecary who compounds, and the druggist who sells them. It is obviously of the first importance that these persons should all speak the same language, and it may be confidently asserted, that there are instances, in which the contrary custom might be productive of fatal consequences. Now, without meaning to insinuate what is disrespectful towards any branch of the profession, let me ask, whether it is probable, that the apprentices of druggists or apothecaries, whether it is probable, that druggists or apothecaries themselves, I may add, whether it is probable, that a large part of physicians and surgeons, who are engaged in the most extensive practice, but who are unacquainted with the improvements in modern science: is it probable, I ask, that these persons will adopt either the Linnæan or the Lavoisierean nomenclature? Can we reasonably expect, that chamomile will ever be stiled *anthemis nobilis*, or that red precipitate will ever be called *oxidum hydrargyri rubrum per acidum nitricum*, by any but professors in universities, or by young practitioners just emerging from the walls of a college? What then will be the consequence? Some individuals, particularly among those entering into the profession, will employ the new nomenclature, and it will probably be adopted by a considerable number of the scientific young men, who may henceforth complete their studies at the university of Edinburgh, while the great majority of physicians and surgeons, either unable or unwilling to abandon their old habits, with the whole class of apothecaries and druggists, will continue to call chamomile, chamomile, and red precipitate, red precipitate. We shall thus have a constant clashing of the two systems: when the different members of the profession meet in consultation, they will speak two languages; the moderns will be as unintelligible to the ancients, as if they were conversing in German, and when a prescription, couched in the new terms, is sent to the apothecary's shop, either the young men will be obliged to decypher each word by a reference to their Pharmacopœia, or what is perhaps more probable, they will content themselves with forming a conjecture upon the subject, and will mix together those ingredients, which seem the most nearly to represent the uncouth terms employed by the scientific physician.

" Another evil, of no small magnitude, which will result from the adoption of the new nomenclature in pharmacy, is the confusion that it will occasion in medical publications. Probably most authors will think it necessary to be at the pains of translating their terms into the language authorized by the College, but by so doing, they will render their works nearly unintelligible to the bulk of their brethren; and the same difficulty will occur to the younger practitioners, who having fully adopted the new system of names, will be equally at a loss to understand the writings of their predecessors. In either case it will be impossible to read medical books without the assistance of a pharmacopœia, in which the hard words must be searched out, as in a lexicon, a circumstance which cannot always be accomplished, and which, at best, would be a burthensome and tedious operation."

On these principles, the language of pharmacy must remain for ever in its present state, and the most obvious and desirable improvements must be rejected, lest some practitioners should not endeavour, or should not be able, to understand them, or lest the terms now used should, in progress of time, become obsolete. The same objections might have been made to the alterations adopted by the London College in 1788 or in 1746, or even against the reform of the jargon sanctioned in the first pharmacopœia of 1618. But none of the evils of which Dr Bostock is so apprehensive were experienced on these occasions, and their occurrence on the present appears to us even less probable. The changes formerly made in pharmaceutical nomenclature were in a great measure arbitrary, or proceeded on principles so obscure, that they gave little assistance in learning or remembering the new names; but in the late reform, the general principles are so evident, that no person, even moderately conversant with chemistry and natural history, has in fact any thing to learn or to commit to memory, except the habit of using the systematic, instead of the officinal names. Dr Bostock's opinion of the attainments of the majority of the profession appears to us, notwithstanding the qualification with which he accompanies it, far from being correct; and if it be incorrect, his fears that the language, written or spoken, of the different members of the profession, should become unintelligible to each other, are groundless, even although some of the older practitioners should, from habit or prejudice, continue to use the old names. From any backwardness in the younger part of the profession to learn the new nomenclature, we have no fear. If they are studying chemistry, and certainly the lowest class of them ought to study it, they will be more familiar with the new than with the old names, and mistakes will only happen when they are so criminally negligent as to form a conjecture about such of the latter as may have become perfectly obsolete. At any rate, it is an easy matter to preclude even the possibility of mistake, by affixing to each bottle and drawer the titles of its contents in both nomenclatures, a practice which has other advantages to recommend it.

Dr Bostock next appears to us to go rather too far, in assigning

ing as the reason why errors in the new nomenclature are of more importance than in the old, that the former really lead to errors in the composition of the substance, which the latter did not. Were not *Antimonium tartarisatum*, *Natron tartarisatum*, and many others, intended to express their composition; and if errors in the old nomenclature be of less importance than in the new, is it not only because less accuracy and precision are expected in it?

But the most powerful objection against the introduction of the new nomenclature, Dr Bostock derives from the imperfections of the reform by the College of Edinburgh, from which, in a manner highly complimentary to that body, he concludes, that the present state of chemical science does not admit of the projected improvement. In a very valuable criticism of their last pharmacopœia, Dr Bostock shews, that we are unacquainted with the composition of many substances in common use, and that the Royal College have not uniformly adhered to their principles of nomenclature. We admit the facts, but not the inference. We hope, that, in the progress of science, these errors would be corrected, and these imperfections removed. Here, however, we are met with a new objection. If we continue to improve, and unless we do so, the whole object of the reform is counteracted, our nomenclature can never be stationary. Most certainly it cannot; but while we admit the inconveniences resulting from a fluctuating nomenclature, subject to changes originating in prejudice or caprice, we expect advantages from one systematically progressive, and at all times in perfect consonance with the state of chemical science. The alterations may be frequent, but they will be gradual, and a discovery will no sooner be established, than pharmaceutical chemists will anticipate, and nearly coincide in, its effects upon the nomenclature.

The inconvenience of the length of many of the new titles, appears at first to be but a very secondary objection, if thereby a greater degree of precision and accuracy can be obtained, but we believe that it forms, in reality, the most efficient hindrance to the universal adoption of the reformed language. It appears to us, however, to be somewhat exaggerated, for some of the new are in fact shorter than the old names, although others no doubt are long, and even awkward. We must endeavour to abbreviate them systematically, and such synonimes as are mere proper names, and can lead to no error, as kino, alumen, calomel, may be occasionally used.

But, in our opinion, the late reform in pharmaceutical nomenlature, is not merely not injurious, or attended with material inconvenience, but it is positively useful, and highly necessary. Here we might with justice recapitulate all the circumstances which have had the effect of obtaining almost universal concurrence to the new chemical and botanical nomenclatures.

If it be absurd, as Dr Bostock allows it is, " to continue the denomination of vitriolic acid to a substance, into the composition of which we are assured that there does not enter a single particle of vitriol," in chemistry, it is equally absurd with regard to pharmacy; and it " it would have been attended with the most manifest impropriety, to have denominated part of a class of substances by a series of scientific terms, while the others continued to be designated by names either altogether arbitrary, or derived from an opposite and discarded hypothesis," in chemistry, the impropriety would have been no less in pharmacy.

But Dr Bostock has foreseen these arguments, and attempts to prove, that the same reasoning does not apply to *medicine.*

> " In medicine it is of comparatively little importance, if the names employed should not suggest correct ideas respecting the composition of substances. This science treats only in an indirect manner of their constitùtion and chemical properties; without regarding the elements which enter into their composition, or the action which they exercise upon each other, it is principally conversant with the power which they possess over the living body. If a substance, called Glauber's salt, be known to have certain purgative effects, it is of little importance to inquire into its composition; our medical knowledge will not be in any degree increased, when we learn that it is composed of sulphuric acid and soda."

This argument, when duly considered, goes much further, we apprehend, than Dr Bostock intended, for, in truth, it rather shows that chemical science is useless in medicine, than that the new nomenclature is not necessary to the progress of pharmacy; and even if, for arguments sake, we allow that a physician's acquaintance with the purgative effects of Glauber's salt will not be increased by knowing that it is composed of sulphuric acid and soda, that knowledge will be of the most material advantage, if not absolutely necessary, to him before he ventures to prescribe it in composition.

Nor do we admit, as a satisfactory argument against rendering the nomenclature of pharmacy uniform and consistent, that " the number of new substances introduced into the materia medica is very small, and in those few instances where a body is for the first time employed in medicine, we may be assured that it must have previously acquired a current name." Still, upon Dr Bostock's principles, the language must become heterogeneous, as now, at least, the scientific names are frequently the most common; for even if we were to prefer magistery of bismuth and Fowler's mineral solution to more scientific titles, we should nevertheless be obliged to use muriate of barytes, oxymuriate of potass, &c.

The only other argument adduced by Dr Bostock, to which we find it necessary to allude, is expressed in the following words.

> " The chemist, in general, writes for chemists only; this is, at least, his direct and primary object; and if the manufacturer thinks that he can profit by his writings, it is not unreasonable to require that he should make himself acquainted with the terms of science. Besides, it is of no great importance, if in an experiment on bleaching, a parcel of cotton should be a little injured; but the administration of ten grains of Corrosive sublimate, *Murias hydrargyri*, instead of the same quantity of Calomel, *Sub-murias hydrargyri*, might probably be followed by the death of the patient."

In this opinion we shall never agree with Dr Bostock. An acquaintance with the terms of science is useful and honourable to the bleacher and manufacturer; the want of it in the apothecary is inexcusable, is criminal. Even if a fatal mistake should occur through such ignorance, it cannot be admitted as an argument adverse to the new nomenclature in particular; for have not similar mistakes occurred with the old nomenclatures? Is not, in the crabbed hands which most physicians write, *Nitr.* much more like *Natr.* than *Sub-murias* to *Murias*, in which, by the bye, the distinctive syllable, from its position, will first strike the eye, and has little chance of being forgotten or overlooked? But the old names sometimes led to mistakes from which the new are totally exempt. We do not, indeed, know that *Oleum vitrioli*, or *Butyrum antimonii* were ever ordered as emollient dressings; but we know that a practitioner actually ordered a handful of the *flowers* of zinc, carefully plucked from the stalks, to be given daily in decoction in a case of epilepsy; and that *Pulv. Basilic.* which lately occurred in a receipt sent to this place from London, might either mean the inert herb basil, or a very drastic composition of old Bates, containing calomel and antimony.

We shall very briefly state the advantages of adopting the nomenclatures of natural history and chemistry into materia medica and pharmacy. It will facilitate their study, as the latter are only taught as branches of the former sciences; it will prevent the confusion and mistakes which would constantly arise from the same titles having a different meaning, when used in pharmacy, from what they have in any other branch of chemistry; it will facilitate the application of scientific discoveries to pharmacy; it will render pharmaceutical nomenclature less fluctuating,

ing, by precluding all changes from caprice, affectation, or prejudice; and it will render pharmaceutic nomenclature more uniform in the different countries of Europe.

We have examined Dr Bostock's arguments with great freedom, but, we trust, with equal candour; and, if we have not deceived ourselves, we have been able to show, from mere reasoning, that his fears are unfounded. It is, however, possible that we may be somewhat too partial towards the new nomenclature; but having been convinced, from the experience of several years, that its use, so far from being attended with any bad effects or material inconvenience, has produced important and manifest advantages, our partiality will scarcely seem unreasonable.

X.

Letter to the Right Honourable Sir Joseph Banks, Bart. F. R. S. on the Causes of the prevailing Discontent, Imperfections, and Abuses, in Medicine. From THOMAS BEDDOES, M. D. 8vo. 1808.

WE remember to have read a story of the archbishop of Grenada in the sage Gil Blas, which forcibly reminded us of this letter and of our present situation. For to say the truth, this work is like the archbishop's homilies, it is a great falling-off from the learned author's other compositions; and though there were some reasons to apprehend the declining vigour of Dr Beddoes' mind, a perusal of this last production of his pen made us ready to exclaim, in the words of the critic alluded to, "*voila un sermon qui sent l'apoplexie!*"

Dr Beddoes is a graduate of the University of Oxford, and is very much dissatisfied with the doctors who take their degrees at the Scots Universities. He has not considered the subject of medical reform either as an abstract question of right nor of policy, but he endeavours, in a diffusive strain of rhetoric and declamation, to prove that the powers of quacks and irregulars, like that of the methodists, "has increased, is increasing, and ought to be diminished." He enters at large upon a critical examination of the report on the subject of medical reform, made by a committee of the Senatus Academicus at Edinburgh, and he censures very freely what he conceives to be both false and presumptuous in that composition. It is not our intention in this place to vindicate every part of the plan of medical education pursued at Edinburgh, nor have we any inclination to undertake a formal defence of all the reasons alleged against any innovation by the Royal College. That must be left to the learned body themselves; and if we may judge from their late proceedings, a new topic for elaborate discussion may not be unacceptable. What we propose doing, is to give an abstract of the principal points of attack contained in this letter, and to state some few arguments in the way of candidly discussing the general question.

Dr Beddoes does not scruple to avow his suspicion that the singular good fortune of the Scotch reputation in England has retarded the agitation of medical reform, and he is not without fears lest it should prevent the requisite measures altogether. Yet in another part of this address, he particularly alludes to the most active and approving correspondents of Dr Harrison's plan, being pupils of the Edinburgh school, and speaks of their conduct as a strong argument against the reasoning of the Senatus Academicus with regard to the period of study being quite long enough. We are disposed to think, however, that the indifference manifested by the public, and by the most enlightened part of the profession, on the late agitation of medical reform, is owing to the good sense and liberal views respecting such topics, the progress of which, in all other matters, would be so useful and so creditable to the British nation. Two things appeared obvious to every one who took the trouble to read the letters and lamentations of Dr Harrison's correspondents,—*first*, That the writers were disappointed men: *secondly*, They wanted that consequence from legislative interference, which the public voice left to itself was not ready to bestow.

The Edinburgh College candidly state their motives for adhering to their custom of requiring attendance for three years before they confer a degree, and the following passage in their report deserves attention:

—"They (the committee) beg leave, however, to observe, that it has never been intended to declare to the public, that the person upon whom a university confers the degree of a doctor in physic has acquired a complete knowledge of medicine; but to announce to the world, in the most public manner, that he has been regularly educated; that he has studied, during a university period, all the branches of medicine; and that he has acquired such a stock of knowledge, as, in the opinion of competent judges, qualifies him for entering upon the practice of physic. A period of three years, employed in the study of all the branches of medicine, has been considered by our predecessors as sufficient, according to the average of human abilities, for the above purposes. *The propriety of fixing upon this period has been proved from ample experience. For the graduates of this university have acquired as high a degree of respectability, have shewn themselves as deserving of the confidence of the public, and have contributed as much to the advancement of the science of medicine, as the graduates of other universities, in which the duration of study is much longer.*"

In commenting upon this paragraph, Dr Beddoes takes it for granted, that all the Edinburgh graduates have only received three years medical education, whereas the majority have been engaged in the study of physic at least double that period; and, upon an average, no man takes his degree till he has attended an hospital or lectures somewhere or other for the space of five years. Many men come down to reside two or three years, who have been practising as surgeon-apothecaries, or in the army and navy, and scarcely one ever offers himself to be examined till after he has spent one winter at some hospital in London. The concluding part of the paragraph just quoted, could give no very lively satisfaction to a graduate of an English University.

"Among our physicians, (says Dr Beddoes), we may find these three besides other classes; first, pure three years Edinburgh graduates; secondly, those who, having been members of Oxford or Cambridge, passed to Edinburgh or elsewhere, and obtained a diploma there; thirdly, graduates of one of the English Universities. Now I hold, that the first class, taken collectively, though it exceed the last so much in number, has exceeded it in no other respect. From Heberden downwards, (for we must not look beyond the period of the celebrity of Edinburgh), whether we judge by the value of publications, or by any other criterion, the last and smallest body may be safely opposed to the first." P. 39.

Whilst Scotland can claim as her sons, and Edinburgh as her pupils, such men as Pringle, Fothergill, Fordyce, Withering, Woodville, Lind, Cleghorn, Percival, Currie, &c. &c. not to mention Monro, Black, Cullen, and William Hunter, there will be few laurels left in the temple of Æsculapius for Heberden, and a few more graduates of the third degree to gather.

Our author quotes some observations on the necessity of medical reform, from the French journals, and informs us, that some laudable alterations have taken place in France: the term of study is extended to four years, and *he conjectures*, the superiority of the plan of study, and of the examination, is such, that no Edinburgh graduate would be allowed to practise there. In this conjecture the learned author may make his mind easy, since we know several physicians who took their degrees at Edinburgh, and settled lately in France, and they are allowed to practise physic as licentiates or foreigners, without submitting to any other examination, because they refused to submit to any such monopolising regulation.

The inaugural dissertations published at Edinburgh, are said to be dull, and there is some justice in the remark; but when they are said to be inferior to those of Philadelphia, Halle, Paris, and elsewhere, we must dispute the assertion. They might certainly be full of more ardour and information, if the writers were encouraged by the professors; but in spite of all the apathy and scepticism inculcated by some of the teachers, scarcely a year passes without some original essay being published in the form of a thesis, which adds to the common stock of knowledge. Some of the most ingenious discoveries have been first made known by these academical exercises. On comparing the theses written by Blake, Macdonald, Jones, and Henry, within these few years, with any published at a foreign university, or with any book written by a graduate of the third class, any unprejudiced person would prefer the compositions of the Edinburgh graduates. What few dissertations have come under our notice from Philadelphia, have abounded in nothing but common-place declamation; and it is notorious, that the theses published at Halle and the German Universities are written by the professors. *Reil* is avowedly the author of several ingenious dissertations published at Halle, and Sprengel now composes them for the students. Excepting a thesis by Dr de la Roche, and one or two more, we never saw a French inaugural dissertation that was destined to be known beyond the walls of the College, or to outlive the first six months of a full doctor's life. The additions which Edinburgh graduates have made to medical science, have been made in the early part of their lives: they seem to lose their enthusiasm as they grow old, or they direct their attention to other pursuits, because they meet with no encouragement to devote themselves exclusively to the study of medicine.

The Edinburgh College very properly advert to the increase of the expence of a medical education, at present very considerable, by prolonging the period of academical study; and we must again and again enter our protest against any plan of reform, which tends to make the rate of expences the proper criterion of fitness for medical practice. Dr Beddoes asks, if "medical education were necessarily more complete, in which case it must become more costly, high and noble blood might feel one objection the less to diffuse itself freely through our profession also. Would not the profession gain upon the whole, by attracting a portion of that cultivation which, alas! it so much needs, and which goes in such profusion to the bar?" p. 50. This is a singular project for improving the practice of physic, and one not at all expected from a reformer of such well known political sentiments as Dr Beddoes. But what has nobility ever done for science? In every profession, the exertion of the greater part of those who exercise it, is always in proportion to the necessity they are under of making that exertion. This necessity is greatest with those to whom the emoluments of their profession are the only source of their subsistence; and it is remarkable how few men born to easy fortunes have ever been eminent in the *law*, although success in that line in England leads to very high objects of ambition;

bition. Nine in every ten of those who rise to eminent stations in the church, in the court, in the law, in the army and navy, are men of low birth, or younger brothers of large families, whose narrow circumstances have forced them to depend upon their industry and abilities, and if they possess any independent fortune, they are not likely to ennoble the profession of physic by descending to the arts of servility in order to insure success.

With the view of showing how a young man can employ five or six years at medical seminaries with essential advantages, our author delineates the following course of study.

> " First Year.—*Dissection, anatomical lectures, reading, drawing, and comparison of anatomical engravings with the objects in nature.* For relaxation, as much as for instruction, *a course of chemistry and elementary reading* :—this for winter. In spring and summer, *a course of comparative anatomy, dissection of animals, botany and physiological reading,* till the winter of the
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> " Second Year.—*Anatomy exactly as before, attendance on clinical lectures in surgery* ; if none are given, *close study of surgical cases, particularly of surgical accidents at first ; morbid anatomy practically,* by every opportunity from this time forward. In spring, summer, and autumn, *practical chemistry, pharmacy, botany, materia medica.*
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> " Third Year.—In winter—*Anatomy and surgery* still ; but external diseases now more than accidents. Spring, summer, and autumn—*Midwifery, medical jurisprudence, comparative anatomy, physiology,* and the other before mentioned pursuits occasionally.
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> " Fourth Year.—*Anatomy to be kept up, lectures on the prcatice of medicine, clinical lectures. Observation of medical cases, and practical reading,* to be a chief occupation through this year. The student may pass it at Edinburgh, at least from October to July.
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> " Fifth and Sixth Years.—*Close attendance on hospitals, with practical reading and lectures,* at Paris and Vienna if accessible ; otherwise in London. During the autumn of this or the preceding year, some time, if possible, to be employed in attending military hospitals, especially in the field.
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> " During the summers, *oral instruction, as it best offers, in other branches of natural history besides botany, in natural philosophy, and in the speculative sciences,* if in these last any lectures should promise more than books. From one or the other, *the acquisition of as many facts as possible concerning the mental operations,* should be considered as an essential part of the stock of the knowledge necessary to the physician." p. 57-59.

In the latter part of this address to the worthy President of the Royal Society, Dr Beddoes proposes various schemes in aid of the medical reform, though he seems aware that the epithets romantic, visionary, and extravagant may be bestowed upon some of them, yet some of them deserve consideration. He proposes to collect and embody the whole medical experience of the country

try for the benefit of the public, by ordinary reports, to be transmitted at fixed periods, from all the hospitals and medical charities in the kingdom, to a central board.

Preventive medical institutions, as he calls them, are recommended, as being likely to improve the state of medicine essentially, and he expects soon to submit to the public some observations to which this species of dispensary gave occasion in its establishment at Bristol. He suggests a general experimental hospital, not merely for the trial of secret or popular remedies, but for the exercise of humane ingenuity upon cases deemed incurable in other hospitals, or in private hands; and a place of refuge for the diseased as well as for the destitute, is very much wanted in every large town, where patients are frequently discharged with incurable disorders from the hospitals or infirmaries. Quack medicines, he thinks, ought to be abolished, and all the tricks of the irregulars, even amongst the regulars, ought to be exposed; for any scheme for the reform of medicine cannot be effectual unless some of the enormities daily committed by quacks are suppressed by authority, there will be enough of quackery left in the profession to feed the credulity of the sick and their friends. A striking picture is drawn of the hot-well doctors, and of the *corresponding* branch of medical practice, and there is too much reason to apprehend the colouring is not too strong. The great remedy for the removal of all these abuses is, according to Dr Beddoes' opinion, medical information. "It is ignorance (he says) that commits, encourages, and suffers from abuses. There is wanting a sceptical or cautionary system of popular instruction in medicine, which shall teach meddlers to distrust themselves, and every body else to distrust meddlers." p. 119.

The progress and reputation of quackery is certainly deplorable; reason and honesty sicken at its presence, and many a modest genius has left the profession because there was such a formidable competitor. But we do not agree with the author in the sort of remedy which he suggests for this very great evil. A smattering of medical knowledge, enough to discover danger as it approaches, does not beget distrust in ordinary minds, but on the contrary, begets a desire of showing their acquirements; and the precious hours at the beginning of a scarlet fever have often been wasted by some meddler pretending to understand what they were unable to prevent or foresee. Incessant declamations are uttered against medicine, all the worst miseries of life are imputed to it, and it is forgotten that the profession is a source of many comforts, and can alone afford relief sometimes when every thing else fails. Too much good and too much evil cannot be said of those who practise it; but what is provoking, people now-a-days never look upon it or speak of it except on the bad side. Medicine holds the first place among the arts. But if we are to form an idea of a half-educated man, running about from one patient to another, giving them all the same remedies, not thinking of what they ail, but of what money he will get, we cannot have a just idea of it any more than we can have a correct notion of agriculture from seeing a miserable peasant limping behind a plough with half-starved oxen, and drawing furrows in a field that is not his own. Complaints against the pretenders to medical skill are to be found in the writings of Hippocrates, and many abuses existed two thousand years ago which are now held up for public animadversion. In the time of Pliny, "*Cuilibet medicum se dicenti statim creditur*," so that the two sorts of errors seem always to have been attached to the healing art, the first relating to the practitioners themselves, the second to those who pretend to judge of physic and physicians. It appears, therefore, that the cause of the evils complained of, is deeper seated than the reformers imagine. It is not the length of time passed at an university, it is not solely the want of proper education, it is not the irregularities committed by unprincipled individuals, but it is human nature that is in fault, and the abuses of medical practice and medical science are founded upon the principles of the human mind. Vanity and the love of power have a great share in the progress of quackery as well as of methodism. To rail against it is very right, and to strive, by enlightened measures, to crush its growth, is very praise-worthy ; but there is no great prospect of ever abolishing it, for if the Legislature suppressed it in one way, like vice or moral evil, it will make its appearance in another direction. The imputation laid to the charge of the Edinburgh College is not fair ; for abuses ought not to be scored to the account of education, which are the effects of downright human folly. Men of accomplished medical education cannot at present afford to settle in the country towns : they cannot repay themselves the capital vested in their qualifications. Of course the health of the people is left to a class of men (routiniers) whose knowledge is not extensive, and not capable of being improved by study or comparative observations. These rural practitioners, however, are a very useful set of men, many of them very intelligent, and well suited to the manners of the soil where they live. After all the schemes which have been offered for the reform of medicine in this country, we are disposed to think things had better be left to themselves. Good and bad practitioners will ultimately find their proper level. The cry that "physic is in danger," is like that so often sounded of the Church, and arises, in general, from the weakness of its supporters ; for the practice of medicine is, upon the whole, more enlightened and more rational than it ever was before in these kingdoms, and is now better here than it is in any other quarter of the world.

XI.

Riddellian System: or New Medical Improvements; containing a Concise Account of the Advantages to be expected therefrom. With some Illustrative examples. By Colonel RIDDELL. London, 1808.

MEDICINE, like music, is an art, of which every body thinks he has a right to be a judge, consequently the number of bad judges is very great. Here is another instance of a breach of the word of advice given to the cobler of old, and the offender is bold enough to glory in his presumption, and to apply to Parliament for a reward. Such a degree of courage was to be expected only from a colonel who has fought against the tawneys. This riddle of a system, as far as it can be understood, is one of those books that any body who can read could write, for it is made up of extracts from some medical dictionary, and letters expressive of thanks to the author for his medicines. His practice is founded on the principle, that "*all diseases either originate in the stomach, intestines, and visceral obstructions, or are intimately connected with them;*" and he prescribes two or three medicines of known efficacy, in different forms and combinations, the principal ingredient of which is *antimony* or Dr James's powder. This is the substance of the system; and as no merit is claimed by the author, either for an invention or a discovery, it is to be hoped that the Lords and Commons, to whom the book is inscribed, will follow the example of the Scots College, which so considerately refused to grant the gallant officer a diploma, lest it should disturb the delightful reflections of an untitled second "man of Ross." What would the sons of Mars say, if an obscure apothecary were to take down Polybius, and, in a fit of disinterested enthusiasm, publish a specific for storming the fortresses in the East, and for conquering all the rebellious nabobs by means of gunpowder and the sword? They would probably think no inquiry necessary to establish the efficacy of those *remedia bellicosa*, nor would the war-office be disposed to grant a remuneration of a pension or a place.

PART III.

MEDICAL INTELLIGENCE.

Report of Diseases treated at the PUBLIC DISPENSARY, *(near Carey-Street,) London, from February 29th to May 31st* 1808.

ACUTE DISEASES.

	No. of Cases.		No. of Cases.
Tertiana	3	Arthritis rheumatica	5
Synochus	17	Peritonitis	1
Ophthalmia	1	Hysteritis	1
Cynanche tonsillaris	2	Urticaria	1
Pleuritis	2	Herpes	1
Peripneumonia	16	Abortus	2
——— notha	4	Apoplexia	3
Catarrhus	98	Pertussis	4
Dysenteria	17	Convulsio	3
Scarlatina	8	Dentitio	1
Rubeola	11	Febris infantum	8
Rheumatismus	7		

CHRONIC DISEASES.

	No. of Cases.		No. of Cases.
Cephalæa	16	Hepatitis chronica	1
Vertigo	3	Diarrhœa	9
Hemicrania	1	Constipatio	6
Catarrhus chronicus	54	Prolapsus ani	2
Asthma et Dyspnœa	3	Hæmorrhois	2
Hæmoptysis et Phthisis	31	Hydrops tot. corporis	7
Asthenia	37	Ascites	4
Dyspepsia	16	Anasarca	3
Gastrodynia	10	Amenorrhœa et chlorosis	12
Icterus	2	Leucorrhœa	7
Enterodynia	9	Menorrhagia	4
Vermes	4	Dolor uteri	3
Colica	1	Rheumat. chronicus	33
Marasmus	5	Pleurodyne	3
Peritonitis chronica	2	Lumbago et Sciatica	4

CHRONIC

Chronic Diseases continued.

	No. of Cases.		No. of Cases.
Dysuria	2	Aphthæ	1
Hæmaturia	1	Lichen	2
Nephralgia	5	Psoriasis	3
Paralysis	6	Impetigo	2
Hysteria	4	Prurigo	5
Epilepsia	6	Scabies	2
Syncope anginosa	1	Erythema	1
Hypochondriasis	1	Purpura	1

With the exception of a day or two of mild weather at the commencement of March, the spring has been cold, and the wind blew from the east during that month, and the greater part of April; so that there was scarcely any appearance of advancing vegetation, until the first of May. The early and middle parts of May were extremely hot, and the month has been on the whole warm, with several moderate rains, insomuch that vegetation has advanced rapidly and luxuriantly. The maximum of the thermometer, in the shade, was 80° on the 4th, and on the 15th it was 83°: the minimum on the former day was 44°, making a difference of 36° in the course of the same day.

The long continuance of cold weather multiplied, as usual, the cases of catarrh and rheumatism, in all their forms; and, in the latter disease more especially, greatly counteracted the operation of medicines, which, under a more favourable state of the atmosphere, seldom fail to give more speedy relief. Several of the rheumatic cases were unusually obstinate. The occasional rains, however, and considerable vicissitudes of temperature, even during the present month, have produced a good deal of illness, not only rheumatic and pulmonary, but also disorders in the bowels; so that two hundred of the patients on the list were admitted during May.

In four of the cases of dysentery, a considerable discharge of blood by stool took place, so as to occasion a speedy depression of the patient's strength. The experience of all our best writers on this subject coincides, in establishing the necessity of a free evacuation of the intestinal canal by purgative medicines, in all degrees of this disorder, in the early stages. But the irritation, which the stimulus of a cathartic medicine excites, in that tender condition of the canal, must be obviated: and this object is best attained by combining an opiate with the cathartic. These cases illustrate that principle in a satisfactory manner; for the patients were all restored to health in a few days, by taking a pill of opium and calomel on two or three alternate nights, and in the day time a solution of magnesia vitriolata with laudanum. The operation of the purgative is not impeded by this combination, but is rendered mild and unirritating; the bowels are emptied without tenesmus, and the natural secretion of the canal is restored. The irritation, occasioned by a cathartic medicine, is not so completely removed by an opiate, given *after* its operation is finished, as is commonly recommended, and the dysenteric symptoms, suspended by this practice, are much more liable to recur.

From the commencement of these reports, we have had occasion to remark the continued freedom from contagious fever, which the metropolis enjoys. Since the year 1802, indeed, the contagion of typhus has not shewn itself to any extent. Yet the seasons have occurred under every variety of temperature, and accompanied with various degrees and vicissitudes of dryness and moisture. In truth, from the days of Sydenham downwards, no medical observer has been able to connect any particular epidemic with a specific condition of the atmosphere. Dr Willan has lately thrown out a suggestion, which, if carefully pursued, may perhaps contribute to elucidate this subject. It appears that the "sweating sickness," and certain other epidemic diseases, were probably connected with the use of damaged corn, analogous to the disease produced by the *ergot* in rye, when this grain was used as food*. In scarce seasons, corn is very generally damaged; and it must be recollected, that typhous fever was most widely diffused through the metropolis, during, and for a short time subsequent to, the years of scarcity, 1797-1799, &c. since which period, the produce of the seasons has been abundant.

The measles and scarlet fever continue to prevail to a moderate extent, the former being much less fatal, than in the early part of the winter. We have not seen a case of small-pox lately; happily, the managers of the Small-pox Hospital have interdicted the inoculation of out-patients with small-pox, so that the most prolific source of variolous contagion is annihilated.

In one of the cases, perhaps improperly placed under the head of Constipation, there was no evacuation from the bowels during the space of thirty-five days, medicine having been omitted during the greater part of that period. The patient was a man, reduced in circumstances, who had been many weeks affected with great constipation, loss of strength and flesh, with an exceedingly dry skin, and total loss of appetite. He complained much of an extreme heat of the stomach, and a general febrile state, induced by the smallest quantity of any substance taken into the stomach, even in a liquid form; so that the non-evacuation of the intestines depended chiefly, perhaps, on the deficiency of ingesta. Trifling evacuations were produced by glysters before he died. The passage of the pylorus was probably nearly closed by scirrhus; but I regret that no opportunity of examination was given after death.

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* On Cutaneous Diseases, Part IV. p. 499. *et seq.*

May 31*st*, 1808. T. Bateman.

Vaccination, from the number of reputed failures in London, and in other parts of England, and from the increased number of deaths from small-pox in the metropolis, has again attracted the attention of the public very strongly, and has been in various forms under the consideration of our legislators. Mr Rose's plan, we are afraid, is, or will degenerate into, a job, and will give rise, if carried into effect, to much jealousy and dissention, not at all favourable to its professed object. Of Mr Fuller's bill we entertain a more favourable impression, for we do not think it inconsistent with the greatest degree of political freedom, to restrain individuals from endangering the lives of their neighbours for their own advantage. *Salus populi suprema lex.* The subject is important, and we reprint the amended bill for the consideration of our readers.

A Bill (as amended by the Committee) to prevent the Spreading of the Infection of the Small Pox.

Whereas the Inoculation of persons for the disorder called the Small Pox, according to the old or Suttonian method, cannot be practised without the utmost danger of communicating and diffusing the infection, and thereby endangering, in a great degree, the lives of his Majesty's subjects;

May it therefore please your Majesty,

That it may be enacted, and be it enacted by the King's most excellent Majesty, by and with the advice and consent of the Lords Spiritual and Temporal, and Commons in this present Parliament assembled, and by the authority of the same, That from and after the first day of August next, no medical practitioner or other persons, shall inoculate patients for the small pox within the distance of three statute miles, within the distance of the utmost boundary of houses adjoining to each other, of any city, town, hamlet or village of the United Kingdom, in which there are ten houses adjoining to each other, under the penalty of forfeiting fifty pounds for every such offence, to be recovered before two magistrates, upon the oath of one or more credible witness or witnesses, to be levied, in case of conviction, upon the goods and chattels of the offender; and half of such penalty shall go and be paid to the informer, and half towards the establishment of a fund for the relief of any poor person or persons who may happen to betaken ill of the infectious small pox, in the parish in which such offence shall have been committed; and which fund shall be at the disposal of the clergyman and churchwardens, or overseers of the poor of the said parish for the purposes aforesaid.

And be it further enacted, That all medical practitioners or others inoculating for the small pox or Suttonian method of inoculation, and where infection can be communicated therefrom without the limits or distance prescribed by this act, shall cause the words "Small Pox Hospital" or "Pesthouse," written or printed in large and legible characters, to be affixed upon some conspicuous part of the house or houses so employed in or occupied for that purpose, under the penalty of fifty pounds, to be levied and applied in like manner as hereinbefore directed, for his, her, or their neglect in doing the same.

And be it further enacted, That in case any person or persons shall be taken ill of the infectious small pox in any city, town, hamlet or village in which there shall be ten houses adjoining to each other, that then and in such case the person or persons so taken ill shall be removed by their family or relations as soon as he, she or they shall be deemed fit by a medical person so to be removed, at their own expence, or in case they are deemed incapable of bearing the same by two magistrates of the district, then at the immediate expence of the parish in which they are so taken ill; and which expence, together with all other reasonable charges, at the discretion of two magistrates of the district, shall afterwards be reimbursed by the parish or parishes to which such persons shall respectively belong, to some convenient and proper distance, such distance to be ſettled and appointed by a magistrate or magistrates of the district in which such case shall occur, and there be taken proper medical care of, on pain of forfeiting, by the occupier of the house in which such person shall be taken ill, the sum of five pounds for every such offence, such penalty or penalties to be levied and applied in the same manner as hereinbefore directed by this act; and the master, mistress, or principal occupier of any house or houses where such infected person or persons shall be taken ill, or to which he, she or they shall be removed by virtue of this act, and all persons whatever in the United Kingdom having at any time the infectious small pox in his, her or their house or houses, shall cause the words "Small Pox here," written or printed in large and legible characters, to be fixed on some conspicuous part of his, her or their house or houses for so long as the infected person or persons shall actually ccontinue within the same in an infectious state as a small pox patient or patients, under the penalty of twenty pounds for neglect in doing the same, for any such offence, to be levied and applied in the same manner as hereinbefore directed by this act.

And be it further enacted, That every master or mistress, or principal occupier of any house or houses situated within any city, town, hamlet or village in which there are ten houses adjoining to each other, shall within twenty-four hours after the same shall have come to his, her or their knowledge, inform the churchwarden or churchwardens, or overseer or overseers of the poor of the parish in which such house or houses shall be situated, of such infectious small pox being in his, her or their house or houses, under the penalty of ten pounds for neglect in doing the same, for every such offence, and which penalty or penalties shall be levied and applied as hereinbefore directed by this act.

Provided always, and be it further enacted, That no penalty or penalties contained in this act shall be levied within the space of two calendar months from the time of the party or parties being convicted of the offence for which such penalty shall be incurred; and if it shall appear to two or more magistrates that the infectious small pox shall not have spread in consequence of any such offence, or neglect of any of the provisions or regulations contained in this act, but on the contrary that the communication of such infection shall have been effectually prevented by proper and sufficient means, then and in such case it shall be lawful for such justice of the peace or magistrates, and they are hereby directed to remit the whole of any such penalty or penalties, any thing in this act contained to the contrary notwithstanding.

Mr Charles Murray, Secretary of the Royal Jennerian Society, has lately published the "Debates in Parliament respecting the Jennerian Discovery," 8vo, pp. 164. Murray, London. The introduction contains some just animadversions on the conduct of public institutions, and especially of the Small-Pox Hospital in London, in inoculating with variolous matter all who apply for that purpose, and sending the contagion of small-pox to every corner of the metropolis; a practice which, we are happy to learn, has lately been interdicted by the humane managers of that institution. The speeches of the leading members (which have been corrected by themselves) contain an interesting view of the evidence in favour of the salutary practice of vaccination.

Mr James Rumsey, an intelligent surgeon at Amersham, Bucks, has recently published, in a little pamphlet, entitled, "Vaccination vindicated from some prevailing Errors," the results of his own experience, in upwards of 3000 cases of vaccination. He affirms, "In no instance, either of the strongest exposure to the contagion of small-pox, or of inoculation with it, have I ever seen *true* small-pox follow vaccination; that is to say, small-pox accompanied with either considerable suffering, or any danger." Small-pox, indeed, has succeeded in a very few instances; but "it has invariably been of that altered, mitigated kind," (consisting of a few pimples, with little surrounding inflammation, drying and dying away in three or four days,) "which is so distinctly characterized, that it may justly be considered as the only sequel of vaccination under any contingency." The ill-founded objections to the practice are calmly confuted, and some cases are stated in illustration. It were to be wished, that the public were in possession of similar statements of individual experience; for although the London College of Physicians have published a general result of such statements, collected by themselves, yet the public would be more fully influenced by more particular details of the evidence.

We have not room to reprint in this number, as we intended, the "Report of the Royal Jennerian Society, on the supposed failures of Vaccination at Ringwood;" nor the "Paper respectfully submitted to the consideration of the Members of the Honourable House of Commons, from the original Vaccine Pock Institution;" nor Mr Bryce's "Outlines of a Plan for extinguishing the contagion of the Small-pox in the British Empire, by rendering the vaccine inoculation general and effectual;" nor to notice the various polemical writings on vaccination, in which we are sorry to see so much intemperance and personality, that we must, however reluctantly, agree with an intelligent correspondent, who observes, that "the uncandid statements and violent invectives of the officious cow-pox inoculators have done more harm to the cause of vaccination than the professed writers against it."

Mr Davy proceeds in his brilliant career of discovery. Lime, barytes, and strontites, have metallic bases and carbon; sulphur and phosphorus contain hydrogen.

Mr John Pearson, surgeon to the Lock Hospital, and the Public Dispensary in London, has a new edition of his Principles of Surgery in the Press.

The London College of Physicians are about to publish a new edition of their Pharmacopœia. A committee of the college has been for some time past employed in preparing it, and a specimen was lately sent to each of the fellows, candidates, and licentiates, for their perusal and criticism. It is now nearly twenty years since the last edition of the London Pharmacopœia was published.

TO CORRESPONDENTS.

The communications of Drs Dickson and Gordon, Mess. P. Cullen, A. Gibb, D. Quarrier, and T. Machell, and the Biographical Sketch of Dr Darwin, were received too late for publication in the present number; and we have been obliged to postpone the reviews of Professor Thomson's Observations on Lithotomy, Alibert's Third and Fourth Numbers, Moreau on Woman, Vicq d'Azyr's Works, the New London and New Edinburgh Medical Dictionaries, Dublin Pharmacopœia, &c. &c.

No. XVI. will be published on the 1st of OCTOBER.—Communications may be addressed to the Editors of the EDINBURGH MEDICAL AND SURGICAL JOURNAL, to the care of Messrs Constable and Co. Edinburgh; Mr John Murray Fleet Street, London; or Messrs Gilbert and Hodges, Dublin.

THE
EDINBURGH
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PART I.

ORIGINAL COMMUNICATIONS.

I.

On the Poison of Fish. By C. Chisholm, M. D.

The many instances of the poison of fish, and the frequency of death in consequence of receiving it into the human stomach, do not seem to have roused, to any useful degree, the attention of medical men. When we consider, that, on the shores of some of the West India Islands, almost all the fish partake in a greater or less degree of this pernicious quality; that on the coast of others, this evil is partially experienced; and that generally there are kinds of fish whose exemption from it cannot be depended on, although, when wholesome, they are delicious food, and constitute the principal means of support of the inhabitants; when we consider this, we cannot suppress our surprise that so little has been done towards obtaining a more perfect knowledge of the subject. Our neighbours, the French, have not, however, been so inattentive. The Society of Medicine of Paris, in a memoir of instructions for the scientific men accompanying M. de la Perouse, very properly direct their inquiry into the investigation of the poison of fish. "Take notice, say they, of the animals, and especially serpents and *venomous fish*, and endeavour to find out the cause on which this dangerous property depends in the latter, and if there be any means by which it may be prevented." (De la Perouse's voyage, by Mellet Moreau, v. i. p. 264.)

I know not any of our voyagers, unless Forster may be considered an exception, who have made any useful observations on this singular property of fish; nor am I certain whether this proceeds from its being an evil chiefly, or exclusively confined to the Caribbæan Seas. These considerations have induced me to resort to and examine my tropical notes, and endeavour, from them, to throw some light on the subject.

It has been well and elegantly said, by a celebrated writer on natural history, that "Nature seems to have fitted fish with appetites and powers of an inferior kind, and formed them for a sort of passive existence in the obscure and heavy element to which they are consigned. To preserve their own existence, and to continue it to their posterity, fill up the whole circle of their pursuits and enjoyments; to these they are impelled rather by necessity than choice, and seem mechanically excited to every fruition. Their senses are incapable of making any distinctions; but they drive forward in pursuit of whatever they can swallow, conquer, or enjoy." (Goldsmith's Hist. of the Earth and Animated Nature, v. vi. p. 160, 2d. ed.) This well drawn general character will explain what might otherwise be considered as inconsistent with the laws of natural instinct. Such a conformation of body, such imperfection in the organs of sense, such rapacity, such want of discrimination, became suitable and necessary to the circumstances of the lot assigned them by Providence. We perceive from it, too, the existence of a law, by which substances inimical to life in another element, and under different circumstances, are not only harmless to fish, but become assimilable to their peculiar nature.

It was in the early part of my residence in the island of Grenada I first had occasion to observe and to attend to the poisonous property of fish. There the fish possessed of this property are the barracuda (perca major subargentea maculata, pinnis nigrantibus of Browne, N. Hist. of Jamaica—the esox barracuda of Sloane, and becune of the French)—a species of snapper (coracinus fuscus major) gray snapper—the porgee (sparus chrysops)—the dolphin (coryphæna cæruleo varie splendens, caudâ bifurca)—the king-fish, tassard of the French, (scomber maximus, pinnulis utrinque novem, tuberculo rigido acuminato utrinque ad caudam)—the conger-eel (muræna major subolivacea)—a variety of the sprat, distinguished by the trivial name "yellow-bill'd," not mentioned by Browne, (clupea thryssa, Osbeck's Faunula Sinensis). These, however, differ greatly in the degree of poison; and all of them, except the last, are generally wholesome. The clupea thryssa possesses this virus to an extent almost passing belief. The first instance of its fatal effect I met with, was in a negroe of the estate of Grand-mal, near St George's. The poor fellow had scarcely swallowed the fish, when the most dreadful convulsions were produced, and in about half an hour he was dead. The œsophagus and stomach were in a highly inflamed state, and exhibited the appearances produced by the most active metallic poisons. When the progress of the action of the poison of this fish is less rapid, the course of symptoms is an itching all over the body, violent colicky pains, a contraction and pungent heat of the œsophagus, nausea, heat of skin, and great acceleration of pulse, giddiness, loss of sight, cold sweats, insensibility and death. The distinguishing symptoms are the contraction and pungent heat of the œsophagus. The rapidity of the action of this poison is such, that at St Eustatius, and other of the Leeward Islands, whites and negroes have been known to expire with the sprats in their mouths still unswallowed. And yet I am informed, that at Porto Rico, the yellow-bill'd sprat is by no means poisonous, but eat with impunity—a curious circumstance, and not to be accounted for, without supposing the local existence of a marine poison of some peculiar kind.

The poison of each fish seems to possess a peculiar action on the human body. The poisonous gray snapper affects the bowels chiefly, occasioning a cholera, with pains so excruciating as scarcely to be borne: it also produces an itching of the surface, and sometimes, but very rarely, a denudation of the cutis, the cuticle peeling off as in some species of lepra. The effects of the poison of this fish are of very long continuance, and frequently give rise to chronic complaints of a very distressing nature, such as weakness and paralysis of the lower extremities, a dimness of sight, dulness of hearing, &c. In the year 1786, a carpenter of the name of M'Arthur, his two brothers, three or four white journeymen, and some negroe carpenters belonging to him, suffered severely by eating of a poisonous gray snapper. The general symptoms were such as I have described; but its mode of acting on one of the negroes is very singular, and affords perhaps an useful hint in the treatment of old ulcers. This man had had an ulcer on one of his legs, which had resisted a variety of means of cure, for more than two years; and at the time I am speaking of, it was so ill-conditioned, that amputation had been proposed as the only means of saving his life. He had eat a larger portion of the fish than his mess-mates, but at first the symptoms were similar. At the end of two days, the discharge from the ulcer became thicker, more abundant, and better coloured; but at the same time, the whole surface of his body became scored, or divided into regular squares, each score deepening into a fossula, out of which was discharged, in astonishing quantities, a substance of a thick curdly texture, and whitish colour. During six weeks, this singular discharge continued: about that period, it gradually ceased, the ulcerated surface healed, and the ulcer on his leg, in a few weeks more, no other means having been used, healed in a most perfect manner. This was literally impressing a new habit on the system, by the introduction of a more powerful and active stimulus. Instances of this do not often occur, and it may be considered as a kind of reproach to physicians, that they are almost always accidental.

The porgée, a species of sparus, and which seems to be the sparus pargos of Forster, produces effects somewhat similar, but, in the West Indies at least, in a very inferior degree of violence.

I do not recollect more than two instances of the poisonous effect of the dolphin. One of these occurred in Grenada. In this, besides violent headach and nausea, there was the eruption of large blotches of a very florid colour, intolerably itchy, but very distinguishable from the prickly heat, and the eruption occasioned by the clupea thryssa, in as much as this was in clusters of the breadth of the palm of the hand, had no distinct pustules, but was of an uniform redness and surface. These were accompanied by a tightness in the breast; but readily yielded to a very simple treatment.

The muræna conger sometimes possesses a most active poison. This fish is very common off the coast of Grenada, and often of a great size. In the month of April, 1791, a conger of the largest size was caught off the plantation of Mess. Prudhomme and Molinier, on which two overseers, three stout negroe men, and a negroe child of three years old, fed heartily; but the negroes ate a much larger proportion than the white men. In the course of the following night, they were all seized with violent griping and cholera, together with a peculiar sensation in the lower extremities, attended with violent convulsive twitchings, and, particularly the child, faintings. The white men suffered less than the negroes. They all perceived a brassy taste in their mouths, as they expressed it, and a rawness of the œsophagus, as if it had been excoriated. These symptoms continued to afflict the negroes for a fortnight, and then terminated in paralysis of the lower extremities. One, indeed, was not only thus affected, but had superadded a paralytic affection of the whole of one side. The child had, conjoined with this, an achorous eruption over the whole of the hairy scalp, emitting a most offensive smell, and discharging an ill-looking ichor. After suffering for several months, they recovered with difficulty.

The king-fish (scomber maximus) frequently, when of an uncommon size, gives rise to very unpleasant symptoms, such as cholera and florid eruptions. It is a variety of this which is most poisonous, distinguished by the trivial name bastard king-fish.

The large white and the small red land crabs, varieties of the cancer ruricola, are also frequently poisonous, exciting violent cholera.

During five months of the years 1796–7, I resided at St Croix, and made excursions to the adjoining groupe of the Virgin Islands. Here I received much interesting information relative to the poison of fish. The poisonous fish of the sea around these islands are the barracuda (perca major); the yellow-billed sprat (clupea thryssa); the poisoned grooper (perca venenosa of Catesby, or trigla subfusca nebulata of Browne); the horse-eye and green-backed cavalloe (varieties, I believe, of the scomber macula nigra ad basin utriusque branchiostegæ et in utraque pinnâ pectorali); Spanish mackarel (scomber cæruleo argenteus nudus, B.); king-fish; the old wife (balistes monoceros); the hyne (coracinus minor); and some varieties of the cancer ruricola. Of these the most dangerous are the barracuda and sprat.

The accounts given by the fishermen, particularly those settled at the east-end of St Croix, were uniform. The questions generally put, were, During what season are the fish most poisonous? What kinds of fish are known to be poisonous about St Croix? What part of the coast do the poisonous fish chiefly resort to? And what is supposed to be the cause of the poison? The answers amounted to this; that the fish, more especially those resorting to the eastern coast of the island, about the end of February, or beginning of March, frequent the bank situated to windward of Buck-Island, in order to deposit their spawn; that they remain there occupied in the important work of propagating their kind, during March and April; that when this is completed, they return to the shallower water near the coast; that during the time they are on the bank, they feed on what the fishermen call sea-moss (corallina opuntia), which, they say, possessing a most active poisonous principle, renders their bodies poisonous to those who eat of them, immediately after their return towards the coast, or if caught on the bank itself; that during the months of May, June, and July, the kinds of fish I have named are poisonous; but during the remainder of the year, until the spawning season returns, they are wholesome. To the question which relates to the nature of the poison, the fishermen could give no satisfactory answer: they all agreed, however, in assigning it to an impregnation of copper, somehow brought about. Imperfect as this information is, with respect to the nature of the poison more especially, it appears, with some explanation and allowance for the obscurity of the subject itself, rational enough; and accounts satisfactorily for the varying experience of the inhabitants of the effect of the same kinds of fish, used as food, at different periods. Mr Semple, of Butler's Bay, on the north side of the island, assured me, that when sprats were caught by his fishermen, his servants, to please him, separated the yellow-billed from the black-billed, and served up to his table the latter only; but the former, being found perfectly wholesome, they constantly ate. On the Golden Rock estate, a negroe-fisherman having busied himself in preparing sprats for drying and smoking, a dog, during the operation, greedily devoured the offals, among which were those of a yellow-billed sprat. The dog became immediately convulsed, and died in less than fifteen minutes. Instances were related to me of negroes dying in the very act of swallowing this fish. Dr Claxton, a physician of eminence, of Christianstaëdt, favoured me with a surprising proof of the singular activity of this poison. A person had taken one of the yellow-billed sprats into his mouth, but had swallowed no part, when informed of his danger; he instantly spat out what he had masticated. Assistance was immediately procured; vomits and alkalis were given, and the danger was considered as obviated. The consequence, however, was fatal, and in a manner the most painful and lingering. Blotches appeared on various parts of his body, corroding ulcers succeeded, which penetrated to the bone, and ending in marasmus, put a period to the existence of the unhappy sufferer. Thus various is the event; a result, in all probability, confirming the accuracy of the observation of the fishermen, that, at certain periods, the same fish is wholesome or poisonous, according to the nature of its food,

The result of my inquiry, and of my own observations, relative to the cause and the nature of the poison of fish, has not been satisfactory. I shall, however, relate them, and leave the reader to decide for himself.

The inhabitants of the West India Islands, in their opinion respecting this poison, may be divided into those, 1. Who believe copper to be the basis of it; 2. Those who attribute all its pernicious qualities to the galere or gally-fish (medusæ and holothuriæ), which are supposed to constitute the food of those fish which possess it; and 3. The few who assign the poison to the manchineel apple, and probably as it relates to the varieties of land crab, found poisonous, they are right.

1. That copper constitutes the basis of the poison of fish, is by far the most prevalent opinion; but I know of no facts which decidedly prove this. In the month of February 1798, I had occasion to travel across the island of Antigua, from St John's to English Harbour. About four miles from St John's, the surface became considerably divided, and offered to my observation a

singular appearance. The rock is universally schistus, and almost every where naked; but the colour of this rock, as well as that of the scanty argillaceous soil, is a beautiful pea-green,—in some places much stronger than in others. For about five miles it continued in deeper or lighter shades, without interruption, and, at Monk's Hill, is suddenly terminated in a high abrupt huge mass of green stratified schistus, intermixed with large blocks of quartz, the whole about 600 feet in perpendicular height. On inquiry, I found that this vein of mountain-green (cuprum acido aëris mineralizatum, Berg. Scrag. 192.) extends across the whole island, in a line nearly N. and S., and in a continuous breadth of five miles; that it is not confined to Antigua, but passing under the sea, between that island and Montserrat, forming a coppery bank or ledge of the same breadth, and reappearing on the opposite coast of the latter, it crosses it also. I am assured that this oxidation of copper continues its course from Montserrat to St Christopher's, and, passing close along the shore of that island at Sandy-point, is again discovered ranging along St Eustatius. It is again recognised among the Virgin Islands, and among the coralline reefs of the eastern shores of St Croix. In this tract, at Virgin Gorda, copper mines were successfully worked about sixty years ago; and when I visited that island, I examined the neglected shafts of many, and collected some good specimens of copper ore (the cuprum nativum of Bergman and Cronstedt) in a quartzy matrix. An ingenious gentleman, Mr Myttleberry, surgeon to the 59th regiment, at that time stationed in Antigua, informed me that, some time after he had observed and examined the coppery tract across the island, happening to be returning with another gentleman from St Christopher's, the master of the vessel they were on board of, on passing over the bank in the channel, between Antigua and Montserrat, I have mentioned, caught some fine looking barracudas, which he immediately threw away, but having reached the deep water beyond the bank, those he caught he made use of. On being asked the reason for his doing so, he said that the copper bank rendered the fish which fed on it always poisonous. A gentleman of Montserrat to whom Mr Myttleberry related this circumstance, confirmed the accuracy of the master's observation. On my return to St John's, I had ample testimony to the same effect. A further confirmation of this is the well established fact, that almost all the fish, but particularly the kinds I have named, caught at Sandy-point, St Eustatius, and St Croix more especially, possess a most virulent poison, insomuch that very few venture to eat of them. I shall add only one more singular fact relative to the supposed coppery basis of this poison. It was communicated to me at St Croix by the late Mr William Newton of that island. Some time after the Santa Monica, British frigate, was cast away on the coast of the island of St John, one of the Virgin Islands, oysters grew on her bottom, which was coppered. Many people ate of these oysters, and although the consequence was in no instance fatal, it was such as was dangerous and unpleasant in a very great degree, producing cholera and excruciating tormina. The submarine ridge or bank, extending from Grenada to Tobago, called by the fishermen of the former island " Copper Bank," is, I suspect, a vein of the mountain-green, and may be, there are good grounds for believing, an extension of that demonstrated in the leeward Caribbean Sea. Nor is it at all improbable that it might be discovered among the Bahama Islands, were a careful investigation made. The poisonous quality of the fish of the Bahama Seas has been noted and experienced from the days of Catesby to the present. In tracing the tract marked by the presence of poisonous fish, it will be considered a circumstance of at least curious importance, that at Saba, Sombnero, Dog, and Pear, &c. forming a kind of sweeping line nearly N. W., the fish are as poisonous as at St Eustatius and Sandy-point; whilst, to the westward of this line, at St Thomas, St John, Tortola, Virgin Gorda, Crab and Passage Islands, and Porto Rico, and to the eastward at St Martin's, Anguilla, Anegada, they are always perfectly wholesome. St Bartholomew is however an exception, although closely adjoining St Martin's. On comparing this observation, the result of actual experience, with the map of the Caribbean Islands, it will be remarked, that the bank placed between Tobago and Grenada, that from the Rock of Aves to Saba, and that from Saba, indistinctly traced towards the southern islets of the Great Bahama group, are all exactly in the north-westerly line, distinguished by the peculiar poison which renders the fish caught in it so pernicious and fatal. It is probable that this principal bank branches off in a few places, as towards Montserrat and Antigua, in one direction, and towards Dominica in another. At Dominica, in Prince Rupert's Bay more especially, the Barracuda and sprat are poisonous; and here an unanswerable argument against the opinion, that the manchineel furnishes the cause of the poison, exists, for, at Prince Rupert's, this tree has never been found. Now this very curious fact can be accounted for, probably, only in one of two ways, by a coppery oxidation of the tract thus distinguished, or by the lithophyte inhabitants of the coralline, of which the greater part certainly, perhaps the whole of this tract is formed, being poisonous, and being the food of the fish, as has been observed at St Croix.

Let these facts be compared with the character of copper given by the most enlightened chemists. Geoffrey, the celebrated French chemist, thus speaks of it, " Æs inter venena recensetur præsertim ærugo. Edulia enim, *vel etiam aqua,* aliquamdiu in cupreis vasis servata, admodum noxia evadunt. Ventriculi et intestinorum dolores et tormina, vomitiones enormes, frequentes et inanes dejiciendi conatus, intestinorum exulcerationes, interdum anhelitus difficultatem et spasmodicas membrorum contractiones, ac triste lethum *pro majori vel minori hujus veneni quantitate,* producunt." (Alston's Mat. Med. v. i. 127.) The testimony of most chemists since Geoffrey's time serves to strengthen his opinion ; and the cases stated by Dr Percival of Manchester, in an excellent paper on this poisonous mineral (3d vol. Med. Trans.), may perhaps be considered as illustrative of the nature of the poison of fish. The account given by Dr Blane, in his observations on the diseases of seamen, of the fate of an officer and two seamen of the Cyclops frigate, is so similar to the many instances of the effect of the poison of fish, as almost to remove a doubt of the identity of cause. (Obs. p. 298.) M. Fourcroi observes, that the oxides of copper are the most virulent poisons of the mineral kind ; that muriatic acid (the basis of sea-water) dissolves metals most readily, and retains them in a state of solution most tenaciously ; that the solutions are generally more permanent than those effected by the nitric or sulphuric acids, and usually more difficult to decompose by heat ; that the solution of copper in the muriatic acid forms a magma which dissolves readily enough in water ; that the oxigenated muriatic acid converts metals into oxides, and dissolves them without occasioning effervescence ; and that this effect arises from the excess of oxygen. (Elements of Chem.) If heat, as this eminent chemist observes, is a necessary condition in the solution of copper by the muriatic acid, we can the more readily perceive the cause of the natural solution of this metal in the West Indian or tropical seas, 1. In the temperature of the sea-water being much greater than in cold or temperate climates. 2. In the innumerable submarine volcanoes, and pyritous beds, the existence of which is proved by the many hot springs found under the sea, and the insupportable heat of the sand in many places ; and, 3. In the probability at least of the oxigenation of the muriatic acid being a frequent natural chemical combination in the seas of the torrid zone, where the proportion of oxygen in the atmosphere is so much greater than in other regions. This may find illustration in the fact, that the fish inhabiting the sea around Virgin Gorda, distinguished by its copper mines, are perfectly wholesome ; but here there is not a single vestige of volcanic fire, nor a single instance of hot springs. The following circumstance may also merit consideration. Although I believe it is a fact pretty well established, subject, perhaps, to a few exceptions, that the poison of fish is confined to the limits of the tropics, yet I also have reason to believe that, within that region, the West India Islands, particularly the smaller Antilles, are almost exclusively subject to it. The seas which wash the north and south American continents within the tropics, are generally blessed with excellent fish; those which bound the opposite continent of Africa are equally so; for M. Bosman, who lived on the coast of Guinea more than fourteen years as chief factor to the Dutch African Company, informs us, that " the want of flesh and other necessary provisions in this country (the Gold Coast), renders the sea considerable, as the principal support of human life, without which it were impossible to subsist here," &c. (Description of the Coast of Guinea, Lond. 1705. p. 261.) This is further evinced by later voyagers. An observation of Mr J. R. Forster is deserving of our attention before we quit this part of our subject. Although Mr Forster (p. 648) attributes the poison of fish to their feeding on the blubbers or medusæ, yet, in other places, he ranks these among the articles of food of the natives of the islands of the Pacific Ocean, particularly Otaheite (p. 215), or, he says, " in regard to the mollusca, what little discoveries we made are confined to the Atlantic Ocean." (197.) Now, it is to be observed, that the only two instances of poisonous fish Mr Forster mentions, occurred within the tropics, in the islands of the Pacific, viz. Malicolla and New Caledonia. It is a curious circumstance, and, I imagine, illustrative of the present observation, that the poisoned sparus pargos was caught at Malicolla, which Forster describes as a volcanic island itself, and in the vicinity of an active volcano (23.). New Caledonia, where the tetrodon sceleratus was caught, is not described as distinguished by volcanic vestiges, but, like the rest, owing its origin to submarine volcanos. In these, particularly the latter, the existence of copper was proved (28.). It is curious, too, that the sparus and other fish taken in the seas around other islands, also volcanic, but without the vestigia of copper, were wholesome. It is further remarkable, that the morbid effects of the tetrodon sceleratus and sparus pargos were precisely similar, although very different kinds of fish, and similar, too, to the effects produced by the poisonous fish of the Caribbean Sea. (See Obs. on a Voyage round the World.)

2. I shall now proceed to offer what I have to say on the holothuriæ, and medusæ, and manchineel apple, as causes of the poison of fish. Du Tertre, the oldest writer on this subject I am acquainted with, says, " on dit dans les isles que cela vient de ce

que ce poisson (becune or barracuda) mange de la mancinille que tombe des arbres dans la mer ; et je crois ainsi, car moy-mesme ay pensé mourir pour avoir mangé quelques soldats (the small red land-crab) qui s'en estoient repeus." (Hist. Naturelle des Antilles, tom 2. p. 204.) M. Desportes mentions this as a supposed cause, but is inclined to assign others, perhaps equally improbable. (Malad. de St Domingue, tom. 1. 108.) M. Valmont de Bomare, taking his information from Du Tertre, attributes this poison to two causes, the manchineel apple and the galere (medusa velella Lin.). Diction. Raison. tom. iii. 12. The Pere la Bat is also of this opinion, as is the inaccurate Rochefort. Whether the apple of the manchineel really produces this effect on fish, or whether fish make it their food, except some of the testaceous tribe, is extremely uncertain. My own observations certainly contradict the opinion, and they are strengthened by the universal suffrage of the inhabitants. The celebrated naturalist Jacquin has given observations which in some measure correspond with mine (See N. Jos. Jacquin Select. Stirp. Americ. Hist. Hippomane (Mançinella.). The solution of the following question may lead to interesting results. If fish are so susceptible of certain vegetable poisons, as to be instantly thrown into a state of stupor by an almost inconceivably small quantity, and when the application is continued, or the quantity of the poison increased, death immediately ensues, why does not the same effect result from the natural application of the poison, I mean the poison which is the subject of our present inquiry ? In Guiana the roots of the hiarree are employed for this purpose (See Dr Bancroft's Essay on the Natural History of Guiana, p. 106.). Two other plants are used by the Indians of the same country to produce the same effect, the kunamee and the yaouracoonalee; the leaves of the first are pounded and made into balls, the root of the latter is used as that of hiarree. The seeds of the menispermum cocculus, formed into a paste, are used by the fishermen of the Levant for the same purpose. (Ency. Brit.) In Georgia and South Carolina, the root of a very beautiful plant, the trivial name of which is buck's eye or poison root (Rhus Carolinianum of Catesby I believe), is constantly employed with the same intention. None of these, although they intoxicate and kill fish, renders these fish in the smallest degree injurious to human life. If, therefore, vegetable poisons were operative, within the tropics, in communicating a poisonous quality to certain fish, we should expect a similar result, that is, that these poisons, although destructive of the life of these fish, should not render their bodies noxious to the life of other animals, particularly man, when used as food. How different, however, is the result, when the poison, whatever it may be, is received into the bodies of tropical fish,—their life is not destroyed, but their bodies are rendered capable of destroying, by it, the life of man. Nor does " a culinary fire" (see Bancroft) correct its noxious particles. Are we to infer from this, that vegetable poisons are not the cause of the poison of tropical fish ? It seems at least a reasonable inference.

The opinion which chiefly prevails among the French voyagers and naturalists is, that the galere or medusa is the cause of the poison of fish. Bomare is very pointed, " cet animal galere (I believe it is indiscriminately applied to the medusæ and holothuriæ) porte un poison si subtil, si caustique, si violent que s'il touche la chair de quelque autre animal, il y cause une chaleure extraordinaire, avec une inflammation et une odeur aussi penetrante, que si cette partie avoit eté arrosé d'huil bouillante." " Ce qu'il y a de surprenant, c'est qu'il corrompt et empoisonne la chair des poissons, qui en ont avalé, sans cependant les faire mourir." (Tom ii. mot Galere.) The short remarks of our countryman Sir Hans Sloane are founded on the same opinion. They are confined to the barracuda, which, with Mr Ray, he calls umbla minor marina maxillis longioribus. " According to its feeding on venemous or not venomous food, 'tis wholesome or poisonous to those who eat it ; 'tis noxious in some seasons of the year, and in some places, and innocent in others, I suppose, according to its nourishment, by which, now and then, it acquires so much poison, as to kill immediately." (N H. of Jam. fol. ed. v. ii. 285.) The medusæ and holothuriæ are, I believe, generally considered poisonous, although their possession of that quality is at least doubtful, to the degree Bomare assigns to them. But, be this as it may, if they constitute the agent in communicating a poisonous quality to fish, we should expect to find the fish of those seas, in which these animals are most abundant, should be the most poisonous. This, however, is by no means the case. On many parts of the coast of Great Britain holothuriæ and medusæ are found in great plenty, but the fish are perfectly wholesome. Nay, within the tropics, and near the equator, these singular animals produce no such effect ; the fish of the seas of Guiana (Demerary more especially) are excellent, and yet they abound in these supposed agents of poison *.

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* In some countries the inhabitants avail themselves of this pernicious quality in committing the most atrocious acts. At Carthagena, in Spanish America, Mr Van Rohr, the famous but unfortunate Danish botanist, who resided there some time, and communicated the fact to my learned and respected friend Mr John Ryan, of St Croix, ascertained that the Spaniards make use of the galere (holothuria

In the Leeward Islands, St Croix, &c. this opinion has also been received, but in some instances with an explanation of the action of the poison on the fish themselves, different from that which we have seen promulgated by the French naturalists. We are informed, by very judicious and well-informed naturalists of St Croix, and other of the Leeward Islands, that fish, immediately after feeding on holothuriæ and medusæ, and becoming the food of the human race, actually prove poisonous, but not without being themselves poisoned; that the action is less sudden on them,

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thuria physalis) as a poison. The animal is dried and reduced to a fine powder, of which a small portion is mixed in the chocolate intended for the devoted victim, and proves certain death. It is the custom in this part of South America to drink a dish of chocolate every morning; hence, when a person is poisoned, or dies under strong suspicion of being so, he is said to have had his galera that morning. It is highly probable this infamous practice originated among the Spaniards of the old Continent themselves. In Shakespeare's "Life of Henry V." act iii. s. 6. on Fluellen's rejection of Pistol's application for his intercession for the life of Bardolph, the former, in a rage, calls out—"Die and be damn'd; a *figo* for the friendship—*the fig of Spain.*" On this passage Mr Steevens makes the following observation:—"This is an allusion to the custom of giving poisoned figs to those who were the objects of either Spanish or Italian revenge;" and illustrates it by several quotations from old poets, particularly Shirley, ann. 1652.—"I must poison him; one *fig* sends him to Erebus." Also B. Johnson's Every Man in his Humour—"The lie to a man of my coat is as ominous a *fruit* as the *fico*," &c. Kæmpfer mentions a fish of Japan called Furube, (Foster ranks it among the cartilaginous, and calls it tetrodon ocellatus), which is said unavoidably to occasion death. "People," says he, "that, by some long and tedious sickness, are grown weary of their lives, or are otherwise under miserable circumstances, frequently chuse this poisonous fish, instead of a knife or halter, to make away with themselves. A neighbour of my servant, at Nagaski, being so strongly infected with the pox that his nose was ready to drop off, resolved to take this meal, in order to get rid at once both of his life and distemper. Accordingly he bought a good quantity of this poisonous fish, cut it in pieces, and boiled it, and, in order, as he thought, to make the poison still stronger, he took soot from the thatch and roof of his house, and mixed it with the rest. After dinner he laid himself down to die, and soon falling mortally sick, he brought up not only the poison he had taken, but a large quantity of viscid matter, probably not the least cause of his distemper, and by this means found life and health in what he sought for death, for he recovered and was well afterwards." Kæmpfer mentions three species of the furube or tetrodon, viz. Susumebuka, the mabuku, and the kitamakura. Of these, the poison of the last is absolutely mortal, it is therefore never asked for but by those who intend to make away with themselves.—History of Japan—Scheuchzer's Trans. v. i. 134. Kæmpfer, in his Amæn. Exoticæ, p. 880-1, says, a branch of the Illicium anisatum, boiled with the decoction of the furube, makes it still more poisonous, although the tree itself is not poisonous, and is even held in the highest esteem for its good qualities. Osbeck, in his Voyage to China, confirms this account. By the Chinese the tetrodon ocellatus is called Kay-po-y; it is caught in the river of Canton, and kills in two hours. He gives a very full description of the fish. v. i. 364, and, in his Faunula Sinensis, classes it among the Reptilia Nantes. The Dutch distinguish it by the name De op Blaser. Dr Kæmpfer's observation may be compared with that on the negroe carpenter in Grenada, who was cured of an inveterate (probably syphilitic too) ulcer, by the poison of the grey snapper.

them, probably from their structure and cold temperament, although not less certain; but that when they afterwards prove poisonous to those persons who make them their food, they are then actually in a diseased state; that they consider the apparently morbid state of the teeth and gums and fauces of the more rapacious fish, as proofs of this; that thus the poisonous barracuda, for instance, is observed to have dark coloured teeth, and swelled and bloody gums, as well as bloody and corroded chops; and that these fish seem also to be in a languid state at the time, and are observed to emit a peculiar smell. A gentleman of Montserrat, where poisonous fish are remarkably prevalent, endeavoured, by frequent observation, to ascertain wherein the poison was seated, and the marks or symptoms which indicated its existence in the fish. After a long series of observations, he at length concluded, that the more rapacious fish, barracuda, rock-fish (perca venenata), snappers, and the variety of king-fish called molatoe king-fish, are those only which are poisonous; that their rapacity often precluded that discrimination in the choice of their food which secures safety; that they thus devour holothuriæ, medusæ, or polypes, but soon after suffer for their rapacity; and that it is only during the action of this poison on their own bodies they become deleterious to others. These observations led this gentleman to an inquiry into the seat of the poison, the general result of which was this—that if the peritonæum, or membrane lining the abdominal cavity, could be so completely separated from the body of the fish, as to prevent the diffusion of its contents, then the body of the fish might be considered a safe and wholesome food. The gall-bladder has been considered by others as the seat of this poison, particularly of the clupea thryssa. A gentleman of Antigua, was in the frequent habit of eating this fish, and explained the cause of the impunity he experienced in the following manner: He maintained that, the poison being contained in the gall of the fish, if the gall-bladder could be extracted without diffusing its contents over the abdomen, the fish would be rendered innocent. He always gave the preference to this kind of sprat thus treated; but if the smallest particle of the bile touched the body of the fish, he threw it away as a certain poison; and, therefore, to have this done properly, he constantly employed a fisherman who was particularly dexterous in performing the extraction of the gall-bladder. It must not be concealed, indeed, that du Tertre and M. Desportes have pointed out symptoms of apparent disease in poisoned fish, which seem to arise, as has been above observed, from their becoming victims themselves to the poison. The former, speaking of the barracuda, remarks, " c'est pourquoy celui qui en voudra

manger en toute asseurance, doit luy regarder *aux dents*, et *gouster de son foye*; s'il a les dents bien blanches, et le foy doux, il en peut manger en toute sureté; mais s'il les a tant soit peu noircies, et le foy amer ou acre, on n'en doit non plus gouster que si c'etoit de l'arsenic: en effet c'est un poison qui n'est pas moins dangereux."—Hist. Naturelle, tom. ii. p. 204. Desportes only remarks, that, of several persons who ate of the "sardine dorée" (clupea thryssa), "ceux qui ne mangerent point *des entrailles* en furent-moins incommodes." Hist. des Malad. de S. Domingue, tom. 1. p. 108 *.

These opinions lead to the conclusion, that fish are incapable of assimilating their bodies to the nature of the poisonous substance, accidentally or by selection, constituting their food, and becoming thereby destructive to others, without receiving injury themselves, an inference by no means necessary, I imagine, since there are many instances on record, of certain animals *selecting* as food, substances which prove certain death, or extremely pernicious to others. Indeed, I am strongly inclined to give full admission to that law of irritability laid down by the ingenious Girtanner, by which the effect produced upon the irritable fibre, by any stimulus, will be always in the inverse ratio of the repetition of its application, so that at last the effect will be nothing †. In truth, we have daily experience that this law is founded on just and established principles: it is the source of habit, and exists throughout creation. Nay, there is reason to believe that such habits may be impressed, as render men proof against the most subtle poisons, whilst they acquire, at the same time, a capacity of poisoning others. To illustrate this proposition, the consideration of the following facts may be useful.

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* The use to which the heart, liver and gall of fish were applied by Tobias, by the command of the conducting angel, is remarkable: When the evil spirit, who had hitherto destroyed seven husbands married to Sara, before consummation, "had smelled the smell, he fled into the utmost parts of Egypt, and the angel bound him."—Tobit, c. vi. and 8. The gall applied to the eyes of Tobit was the means of renovated vision.—C. xi. See also Dr Gray's Key to the Old Testament on this passage in the history of Tobit. The application of the gall of fish in diseases of the eyes is mentioned by Galen as a remedy highly extolled by physicians—*ενιων δε ζωων εξαιρετως επηνηται χολη παρα τοις ἰατροις, ὡς οξυδερκεις τε ἁμα και υποχυματων αρχας διαφορουσα, καθα περ ἡ τετε ιχθυος ονομασοισι δ'αυτο καλλιωνυμον*, &c.—De Simp. Medic. Facult. l. 10. c. 13.

† It is well expressed by the following equation: If the stimulus be as a, the irritability as b, and the repetition of the application of the former to the latter as c; then will the effect produced on the fibre x be $x = \frac{ab}{c}$. See Med. Rev. v. iii. p. 46.

Mr Barrow, in his Travels into Southern Africa, (p. 268), informs us, that serpents are instantaneously killed by the oil of tobacco. A Hottentot applied "a small quantity of a thick black matter, from the short stem of his wooden tobacco-pipe, which he called tobacco-oil, to the mouth of a snake, while darting out his tongue. The effect was instantaneous, as an electrick shock. With a convulsed motion that was momentary, the snake half untwisted itself, and never stirred more; and the muscles were so contracted, that the whole animal felt hard and rigid as if dried in the sun." The Hottentot himself, although inhaling its fumes, felt refreshed and delighted. M. Pallas mentions a singular kind of honey, which, from its effects on men, has been called "maddening," which the bees collect from the blossoms of the rhododendron (dwarf rose bay), and the azalea pontica (upright honeysuckle), in the country of the Abassines, in the line of the Caucasus.—Travels in S. Prov. of Russia, v. i. p. 386. Dr Barton, of Philadelphia, describes the morbid effects of the wild honey of N. America, sometimes even fatal, which the bees extract from three species of the kalmia; some species of the andromeda, the datura stramonium, and the plants mentioned by M. Pallas.—Trans. of Am. Ph. Society, vol. v. The white darnel, (lolium temulentum), during a scarcity, occasioned by the blockade of Genoa, in the year 1800, was fraudulently mixed with wheat, or substituted for it. The effects on those who ate bread made of it, were dimness of sight, confusion of ideas, prostration of strength, trembling, &c. whilst chickens fed with greediness on this grain, and throve on it.—Med. and Surg. Journ. of Edin. v. i. p. 106. M. Vaillant describes a caterpillar which acquires an active poison from feeding on a small poisonous plant, the name of which is not mentioned; and of this animal, when about to change into the chrysalis state, the Mimiquas prepare a deadly poison, in which they dip the points of their arrows; and yet this caterpillar, before it feeds on this plant, is not poisonous. Travels into the Interior of Africa, v. ii. p. 359. Peter Kalm, describing the effects of the swamp sumach, (rhus vernix), on different persons, says "this tree is not known for its good qualities, but greatly so for the effect of its poison, which though it is noxious to some people, yet does not in the least affect others." He instances this in himself, and in his botanical assistant Yungstrœm.—Travels into N. America, Forster's Transl. v. i. p. 77. He mentions similar effects produced by the apocynum androsæmifolium in Canada, v. iii. 26. In v. ii. p. 157, he relates a curious fact of the meloë proscarabæus. "Numbers of oil beetles sat on the leaves of the white hellebore (veratrum album), and feasted on them. I considered them a great while, and they devoured a leaf in a few minutes. Thus this plant, which is almost certain death to other animals, is their dainty food." But the most remarkable proof of this diversity of action of the poison of the same plant, the same learned naturalist exhibits in the kalmia latifolia (foliis ovatis, corymbis terminalibus), the spoon tree or dwarf laurel. " These trees are known for this remarkable quality; their leaves are poison to some animals, and food for others. Experience has taught the people, that when sheep eat of these leaves, they either die immediately, or fall very sick, and recover with great difficulty; on the other hand, the leaves of the kalmia are the food of stags, when the snow covers the ground, and hides all other provision from them. Therefore, if they be shot in winter, their bowels are found filled with these leaves; and it is very extraordinary, that if these bowels are given to dogs they become quite stupid, and as it were drunk, and often fall so sick, that they seem to be at the point of death; but the people who have eaten the venison have not felt the least indisposition." This fact, it will be remarked, corresponds with what has been said of the poisonous substance being confined to the stomach of fish. " The leaves of the kalmia are likewise the winter food of those birds which the Swedes of N. America call hazel-hens, the partridge of New England (tetrao cupido), and which stay here all winter; for when they are killed, their crop is found quite filled with them." v. i. p. 335. But the flesh of these birds is so impregnated by the poison of the kalmia, as to produce on those who eat of it the most alarming symptoms, and even death. See an excellent paper on the poison of this species of the tetrao (pheasant or partridge of N. America), by Dr James Mease of Philadelphia—Med. Repository, v. i. p. 161. It is well known, in almost all the West India Islands, that hogs eat greedily of the bitter cassada (Jatropha foliis palmatis pentadactylis, radice conica oblonga, carne sublactea of Brown); and it is, perhaps more generally, known that it is, in the raw state, a most deadly poison to other animals, and more especially to the human race. Mr Long, in his history of Jamaica, says, " the expressed juice of this plant soon putrifies and breeds worms, which undoubtedly draw their nourishment from those particles which are so baneful to mankind; and when dried and pulverized, they have formerly been applied to the most mischievous purposes by the Indians and Negroes; who, having conveyed some of the powder under the thumb nail, presented a cup of drink to the person they intended destroying, contriving, at the same time, to suspend the tip of their thumb in the liquor, in order to impregnate it." 4th ed. v. iii. p. 781. To accumulate instances of this law of the animal œconomy, whereby the bodies of animals may be assimilated to the nature of substances constituting their food, and acquire a capacity of communicating the baneful influence of that nature to other bodies, would seem unnecessary. I shall, therefore, confine myself to two or three classic instances, the authenticity of which has indeed been impugned on the score of credulity; but I imagine, in all probability, unjustly. The antidotal story of Mithridates the 7th, called the Great, King of Pontus, is known to every classic reader. Justin says his enemies "veneno eum appetivere. Quod metuens, antidota sæpius bibit, et ita se adversus insidias exquisitioribus remediis stagnavit, ut ne volens quidem senex veneno mori potuerit." l. 37. c. 2. However inclined many may be to question the truth of this singular anecdote, it is certain the modern compilers of the history of Pontus, give full admission to it. Galen has given full credit to it, and founds his belief not only on the authenticity of the fact itself, but on his own knowledge of a similar habit impressed on the Emperor Aurelius. Εἰ δε τίς ἤτοι καθ' ἑκάστην την ἡμέραν, ὡς ὁ καθ' ημας γενόμενος αὐτοκρατωρ Αὐρήλιος Αντωνῖνος· ἢ ὡς αὐτὸς ὁ Μιθριδάτης λαμβάνοι τȣ̃ φαρμάκȣ, παντάπασιν ἀβλαβὴς ὑπὸ των θανασίμων ἔσται, &c. [*]. Galeni de Antidotis, l. 1. c. 1. Paris ed. 1639. The consideration of this curious subject, throws a shade of probability on the strange relations of some travellers. Were we to believe, what indeed appears in the highest degree probable, that the bodies of certain fish possess an idiosyncrasy, which capacitates them to the inoccuous reception of poison, whilst they thereby become so assimilated to its nature, as to become, when used as food, pernicious to men, then might we admit, as sufficiently consistent, the story related by Grynæus, on the authority of Vertoman, of a Sultan of Cambaia:—He gravely assures us, that that monarch was so accustomed to take poison from his infancy, that a certain quantity, every day, was necessary to his existence; and, when any of his courtiers offended him, he would chew some of a very malignant nature for a considerable time, and by spitting it on the culprit's naked body, would deprive him of life within the space of half an hour. He adds, "huic sunt circiter quaterna scortorum millia; nam ubi semel concubuerit cum quavis meretricum, proxima luce vitam exuit." (See Novus Orbis Region. ac Insular. veteribus incognitarum. Bazil 1555, of Simon Grynæus, as quoted by the ingenious and learned Mr Hole, in his Remarks on the Arabian Nights Entertainments, p. 224 and 197.) Galen lays down as an axiom in physiology, that the most poisonous substances, as hemlock, if introduced gradually into the body, will not injure, and gives the following instance of this: "Id quod anus Atheniensis experimento docuit, cujus apud omnes percelebris memoria est. Etenim ea a minima cicutæ portione auspicata, nullo detrimento ad permagnam progressa est copiam; principio enim paucum exiguitate ipsa devictum est, at consuetudo naturale reddidit *." (Galeni de Simp. Medic. Facultat. l. 3. c. 18. Paris ed.). The aphorism of Hippocrates is in confirmation of this; for, in truth, it is the result of daily experience, that "quæ longo tempore assueta sunt, etiam si deteriora sunt, minus iis quæ insueta sunt molestare consueverunt." (2. Aph. 50). Nor is

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[*] Verum si quis vel singulis diebus quemadmodum nostra tempestate factus Imperator Aurelius Antoninus, vel ut ipse Mithridates, medicamentum capiat, omnino a lethalibus et deleteriis appellatis medicamentis erit securus et immunis; sicuti aiunt et Mithridatem ipsum, quum lethali medicamento interire potius quam Romanorum subjici imperio maluit nihil invenisse quod ipsum interimere potuerit.

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[*] *και τουτο και ἡ Αττικὴ γραυς ἔδειξεν. ἧς απαντες, μνημονεύουσιν, ἀπ' ελαχιστου, μεν αρξαμεν'η κωνειου, προ ελθουσα δε αλύπως επι πλῆθος ἱκανον." εξαρχῆς μεν' γαρ ενικηθη τὸ βραχὺ δι, αιτην την ὀλιγὸτητα, τω δὲ εθισμω ευμφυτον ἐγενετο.* This singular effect of habit, or rather this wonderful law of the animal economy, he calls *φυσεις επικτητοις.* adscititia natura sive altera natura. And again *πλειστον δυνασθαι τα ἔθη, και φυσεις επικτητοις.* plurimum possit consuetudo velut altera ac adscititia natura.—Ibid. And c. 6. he mentions a faculty possessed by sterlings similar to that of the American pheasants, observed by Kalm. *επει το γε κωνειον, ου μόνον ου καταψυξει τοις ψάρας, ουδ' αναιρει καθα περ ἡμᾶς, αλλα και τρεφει, και θερμαινει δηλονὸτι.* Siquidem cicuta sturnos non modo non refrigerat et enecat uti nos, sed et alit quoque, et nimirum etiam calefacit.

I know not whether the following history be authentic or fabulous. I met with it in a newspaper of Bristol, and traced it to the Monthly Magazine for March 1807, where it will be found p. 167, under the head "Literary and Philosophical Intelligence." I wished much to ascertain its authenticity, but the Editor of this periodical work refused to gratify me; certainly a suspicious circumstance. "The following singular consequences of the bite of a rattlesnake are mentioned in a late American publication.—In the summer of 1801, Mrs Beeman, of Luzerne county, Pennsylvania, was bitten by a rattlesnake at the time she was in the fourth or fifth month of her pregnancy. She, however, recovered from the alarming symptoms attending the bite of that animal, and was delivered. The child, which seemed healthy, no sooner began to suck, than it turned quite black, swelled considerably, and soon died. A puppy was then procured to draw the breast, but it died in two days, with the same symptoms; a lamb was next tried, then a dog, and afterwards three other lambs, all of which died. A third dog was then procured, which was attacked with slight symptoms, but survived. The mother continued in good health, and two years afterwards produced another child; but the medical men who were consulted advised her to suckle it, in consequence of the time which had elapsed since the bite. She did so, and no ill consequence ensued." Catesby denies pointedly that the manchineel apple is the cause of the poison of the barracuda, and gives a decisive reason; "there being very few of these trees in those of the Bahama islands I was at, and *none* growing on the sea-shore, nor within many miles of those parts of the Bahama seas, where these infectious fish are known to abound." Vol. ii. p. 95. fol. ed.

is the impression of such extraordinary habits, or the existence of such peculiar temperaments, among animals, inconsistent with the arrangements of Providence, either for the supply of food, or as a check to exuberant population *. (See Dr Paley's Nat. Theology.)

After all, however, admitting that, in conformity with the opinions I have stated, (p. 8), holothuriæ, medusæ, and polypes or zoophytes (corallina opuntia), are poisonous, and the immediate cause of certain fishes becoming so, the question will be still undecided, what is the basis of this poison; why should these animals be, almost the only inhabitants of the sea, possessed of this property; and why should they, thus constituted, be made the food of fish, which, without them, would, we have reason to believe, be wholesome. In vain would ingenuity be exerted in the investigation; fruitless would be the research for its solution. We must listen to the awful expostulation of the Almighty, and humbly acknowledge our incapacity. "Hast thou entered into the springs of the sea; or, hast thou walked in the search of the depth. Knowest thou the ordinances of Heaven? canst thou set the dominion thereof in the earth?" Our answer must be, "We darkeneth counsel by words without knowledge;" for, "Thy way is in the sea, O God, and thy path in the great waters, and thy footsteps are not known." (Job. c. 38.—Ps. 77.)

Let us now proceed to a more important part of the subject, the means of detecting the poison. Here it is with regret I acknowledge the uncertainty of any experiments which have as yet been made; and that we must, in a great measure, trust to the

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* Is this power of habit, this *φυσις επίκτητη*, more extraordinary than the power of reproduction possessed by certain animals, as the lizard, which has been found by Spallanzani to be capable of regenerating its tail and feet when cut off; or the power which other animals possess of becoming distinct animals according to the number of pieces into which they are cut, as the polypi. Surely these are more wonderful operations than the body of an animal becoming so accustomed to poisonous food, as to be rendered at last capable of poisoning, without injury to itself. Is it more extraordinary than the capacity which certain fishes and insects possess, to exist, as in a native element, in water of the temperature of 210°, mentioned by the ingenious and learned Mr J. Mason Good, on the authority of Messrs Humboldt and Bonpland, and the late Lord Bute? Or, is it more wonderful than this other fact, mentioned by the same gentleman: "The eggs of the musca vomitoria, or common flesh or blow-fly, are often deposited, in the heat of summer, upon putrescent meat, and broiled wish such meat, over a gridiron in the form of steaks, in a heat, not merely of 212°, but of three or four times 212°, and yet, instead of being thereby destroyed, we sometimes find them quickened, by this very exposure, into their larva or grub state." See his Anniversary Oration before the Med. Society of London, 1808, p. 30.

the observations of persons unacquainted with science, and which have been the result of mere experience, unaided by any chemical proof. This experience is, however, very general, although not absolutely, "vocis ratæ tentamina."

When any suspicion is entertained of the wholesomeness of fish, the most usual method practised in all the islands, is to boil a piece of silver, or, very often, when silver is not at hand, an onion, in the same vessel with it. If the fish is wholesome, the colour of the silver, or onion, remains unchanged; if poisonous, they become black. This is generally considered a most certain test of the quality of the fish, and its simplicity would render it the most useful. Experience has been the guide in the choice, and learned men have given their suffrage in favour of it. (Kalm's Travels in N. America, v. i. 386.) But how far we can depend on its infallibility, I shall not pretend to say, although an instance of its fallacy was related to me, by my friend Mr Stevenson, of St Eustatius. A Negroe, of that island, purchased a barracuda, which his friends, believing to be poisonous, endeavoured to persuade him from eating. He, however, had it boiled, and to ascertain its quality, put a piece of silver into the vessel. The silver became perfectly black; but, not being disposed to lose his money, he still determined to eat the fish; he did so, and found it perfectly wholesome. Another method of detecting the poison, is to throw the heart, or the entrails, to a dog, cat, or duck, before the fish is boiled. If, these prove harmless, the fish is of course considered wholesome; on the contrary, if they prove fatal, a test of the most decided certainty is furnished of the existence of poison. But there are tests existing in the fish itself, not unfrequently, by which the poison may be detected. It is a general observation of fishermen and navigators of the channels and narrow seas among the keys or smaller islands, where fish are most abundant, that when fish of any kind, but particularly king-fish (the varieties called bastard and molatoe), Spanish mackarel (scomber cæruleo-argenteus rudus), &c. are destitute of a certain smell peculiar to them, that smell distinguished by the name "fishy smell," they ought to be considered as unwholesome. It is also remarked, by the same class of men, that when these fish are of an uncommon magnitude, they should be rejected as hurtful, or, at least, as less certainly wholesome than those of a more moderate size. The last observation is more particularly applicable to the overgrown king-fish, the barracuda, and bay and gray snapper (species of the coracinus *.) In the barracuda, nature

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* The monks of Salernum seem to have been aware of this.

Si pisces molles sunt, magno corpore tolles,
Si pisces duri, parvi sunt plus valeturi.—Scol. Salern. c. 80.

ture seems to be particularly careful to discover its poison by a singular distinction. When this fish is observed to have black or dark-coloured teeth, not a doubt, we are told, should remain of its poisonous property; and it is generally received as a fact, that when any of this kind of fish have proved poisonous, they have been found with black or dark-coloured teeth; and, on the other hand, that there has seldom been an instance of the white-teethed barracuda being unwholesome. Du Tertre, we have seen, has, with a different view, carefully pointed out these marks of poison.

The next object of our attention, is the destruction of the poison before the fish is used as food. Salt is justly considered as a powerful agent in counteracting this poison. This is employed for this purpose in the West Indies, in the form of pickle, in a dry state, or through the medium of smoke; and the most virulently poisonous fish, the clupea thryssa, is rendered perfectly innocent by means of it. The late Mr William Newton of St Croix, assured me that the negroes of his estates ate constantly both of this and the poisoned barracuda, after they had undergone the action of salt. Innumerable proofs have been furnished by persons totally unconnected with each other, of the salutary effects of salt, in whatever manner applied, on poisonous fish. A barracuda, the poisonous quality of which was proved by its entrails killing a cat that had ate of them, being cut into slices or *junks*, and slightly salted or corned, was rendered perfectly wholesome, and, as usual, delicious to the taste *. Salt water is a provision furnished by nature against this poison; for if a large draught of it is drank as soon as the poison of the fish eaten has ascertained itself, it either altogether prevents the effects, or renders them infinitely milder. And it is a common practice among the fishermen of the Leeward Islands, when they have taken a poisonous fish, immediately to open it and take out the entrails, wash the body in the sea, and throw a little salt over it; all which renders it perfectly wholesome. Instances have occurred, however, in which salt has not exhibited its counteracting power. The following is singular: A Mr P. Heyliger of St Croix, trusting to the efficacy of this antidote, was in the habit of eating fish supposed to be poisonous, after being sliced and corned. For a considerable time he perceived an uniform beneficial result: at length, however, a poisonous barracuda treated in this manner, was eat with the usual confidence, but all the usual symptoms soon after took place—his life was even despaired of, and several months elapsed, and a change of climate recurred to, before his former health could be restored. The juice of the lime (a variety of the citrus lima) has been used with good effect by the negroes with this intention. I have had no experience myself of its beneficial effects this way, but it certainly possesses qualities which may render it an useful counteractor of this poison. The ancients seem to have held this opinion of it, or at least of the citron, which possesses the same properties (superoxygination) [*]. To the same principle of action we may, I imagine, attribute the astonishing efficacy which the ripe juice of the sugar-cane, employed for the same purpose, is said to possess. The decomposing or counteracting power of this juice is so little known, and so wonderful, as to render it necessary to be more particular, in detailing the account I have received of it from Mr William Stevenson, a gentleman of great respectability and probity, and many years a resident in St Kitts and the Virgin Islands. During those months in which fish are most dangerous from their poison, viz. the spring and summer months, then are the sugar-canes at their full growth, and consequently their juice mature. At the same period of the year are the sweet potatoes (convolvolus battatas) ripe; and there are not more effectual antidotes against the poison of fish, than the raw juice of these two plants. The fishermen are so perfectly aware of this, that they never hesitate to eat of suspected fish, providing they can procure the juice of the sugar-cane more especially. They bruise the cane between two stones, and express the juice, which they immediately drink without further preparation. When the cane cannot be procured, they drink the sweet potatoe, prepared in the same manner. Thus provident has the Almighty Creator of all things been to furnish the sure means of preventing the fatal effects of a, no doubt, necessary evil! thus within the tropics, where the poison of fish, for wise reasons, is most prevalent, perhaps exclusively so, are there abundant indigenous decomposers of it! The lime, the sugar-cane, the sweet potatoe, are in perfection, when fish are most baneful;

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* "That salt is *σύμβολον φιλίας καὶ εἰρήνης*, a symbol significative of friendship and peace, is ordinarily said." See Hammond on the New Test. Mark, c. ix. n. f. Why it should be so, the facts here related may be received as proofs.

[‡] Media fert tristes succos tardumque saporem
Felicis mali; quo non præsentius ullum
(Pocula si quando sævæ infecere novercæ,
Miscuerunt herbas, et non innoxia verba)
Auxilium venit, ac membris agit atra venena.—Virg. Georg. 2.

baneful; and at all times, when these are wanting, the sea itself furnishes a remedy, by no means devoid of efficacy *.

I may here notice two curious circumstances attending the poison of fish. The first is, that the person who has been once affected by the poison of any particular kind of fish, is ever after subject

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* The astonishing goodness of Providence is wonderfully manifested here.—The nature of the tropic climate requiring a larger proportion of oxygen in the composition of its atmosphere than is found in other climates, it is perhaps followed by a chemical impregnation of copper in the food of fish, whose rapacity prevents them from avoiding the use of it, but whose constitution and habits fit their bodies for the harmless reception of it. These, however, on becoming the food of man, act on his body as a poison—but, to compensate this, there is, in the vicinity of the poison, nay, in the very element in which it exists, abundant means of relief, abundance of agents calculated for its decomposition. It is certainly one of the most instructive, one of the most beneficial exercises of the mind, to discover and contemplate this compensative distribution of good and evil in the divine economy of the world, for it terminates in this important truth, "that all things work together for good to them that love God."—Rom. viii. 28.

As a proof of the efficacy of the sugar cane juice as an antidote against poison, my respected friend, Mr Stevenson, related the following very extraordinary fact, which nothing indeed but the known veracity and honour of my informant could have induced me to give it a place here, which I do chiefly with a view that the fact may be confirmed or disproved by the ingenious experiments of those whose situation enables them effectually to pursue the inquiry: It was long after my return to England Mr S. communicated it to me. During a temporary absence at St Eustatius, from St Christophers, where his mother-in-law, Mrs Newton, resided, a favourite little dog of Mrs Stevenson's had been, one night, inadvertently locked up in a pantry, in which, the house-keeper, a very intelligent mulatto woman, had, the preceding evening, set powdered arsenic mixed up with potatoe and butter for the rats. In the course of the night, the dog discovered this baneful preparation, and ate up the whole of it. On the following morning, when the housekeeper came to see the effects of the poison, she found the dog in the agonies of death; desirous of saving the little animal's life, and recollecting that raw cane-juice was used to counteract the poison of fish, and it being then crop time, she instantly ran to the boiling-house, which was fortunately near at hand, and procured a small bason-full of the expressed raw cane-juice, which she presented to the dog, who, agonized as he was, leaned his head towards it, and eagerly lapped up the contents. The effect was almost immediate—he perfectly recovered, and lived several years after. This fact acquires additional weight from a paper in the Asiatic Researches, where an antidote to the poison of arsenic is mentioned with confidence, and which has, nevertheless, we should conceive, less pretension to secure belief than that I have stated.—"The best antidote against its (arsenic's) effects are the scrapings of leather reduced to ashes. If the quantity of arsenic taken be accurately known, four times as much of those ashes, mixed with water, and drank by they patient, will sheath and counteract the poison." (Asiatic Researches, v. ii. as quoted in Med. Journ. of Edin. v. iii. p. 20.) A curious observation of Dr Kæmpfer's is also to the point.—The Chinese, who are remarkably fond of fat unctuous food, and particularly of pork, would, by the constant use of it, destroy subject to a return of the symptoms on eating even a wholesome fish of that kind. A remarkable instance of this was related to me by the late Mr William Newton of St Croix. This gentleman assured me, that dining once in company with his brother Mr Samuel Newton, and a Captain Hyet, they all eat of a fine barracuda. Mr Newton and his brother sustained no injury whatever, but Hyet had all the symptoms of the poison of this kind of fish in a milder degree. This fact was rendered interesting by Hyet's information, that at St Eustatius he had nearly lost his life by eating of a poisoned barracuda; and that he was assured at the time, that if he should ever again eat of this fish, whether poisonous or wholesome, similar symptoms would be the certain result, but not in a degree to endanger life. The second circumstance is, that some men escape the poison at one time, but are affected by it at another. Mr Stevenson already mentioned was a remarkable instance of this: he twice escaped the poison of fish, whilst several others who had eaten of the same fish at the same time, suffered severely from it. At another time he was not equally fortunate. This however is not more singular than what has been frequently observed in the plague, and other pestilential diseases; and, as in these, the poison may require a predisposition of body, to have its action manifested.

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stroy the principle of life, were it not for the equally constant use of a strong infusion of the leaves of the tea-tree. If these two contraries be put together, he adds, on the authority of a grave elderly Chinese physician, they will, far from being prejudicial, rather contribute to health and long life. For the truth of this assertion, they vouch the case of a lascivious woman, who, following the advice of a physician, in order to get rid of her impotent husband, gave him for his daily food swine's flesh, and all manner of fat things, which, she was assured, would kill him in one year. This, however, was too slow a process, and in order to dispatch him at once, she was advised by another physician to swell him with a strong infusion of tea-leaves. She wisely concluded that if each of these separately should be so powerful, combined they must be infinitely more so. She accordingly gave her husband both, but found, to her great grief, that far from declining, he quickly recovered his strength, and was at length restored to a perfect state of health. He adds a similar story from Ausonius, of a lascivious wife, who was disappointed in the same manner, of putting a jealous husband out of the way, which is equally applicable.

Quam pia cura divûm! Prodest crudelior uxor;
Et cum fata volunt, bina venena juvant!

(See Amænitat. Exoticæ, Art. Tea). In the leeward Caribbee islands, the poison of land-crabs (cancer ruricola) is most virulent during the month of March, but as they are considered as a great delicacy when divested of this pernicious quality; they are kept several days and even weeks in pens before they are used for food, and to render them wholesome, for the first few days, the leaves of the physic nut (jatropha curcas) are given to them; these they greedily eat, and they act on them as cleansers and decomposers of the poison, thus literally "bina venena juvant."

The next important object of this inquiry, is the ascertaining the best means of preventing the fatal effects of this poison, after it has been received into the stomach. This, where it has been practicable, I have effected by evacuation, and by the judicious use of ardent spirits, or the stronger wines. If, instantly after receiving the poisonous fish into the stomach, a vomiting is excited to such a degree as to discharge the offensive body, no further inconvenience can arise from it. This, however, and all other remedies are inapplicable to accidents from the poision of the clupea thryssa: to those from other kinds of poisonous fish, less rapid in their operation, they certainly are, if the application is made in sufficient time. But as the person who unhappily becomes the subject of this poison, is seldom aware of his danger, till too late to prevent it, vomiting as a means of prevention is seldom resorted to. The moderate use of brandy, or any other ardent spirit, or of Maderia or sherry wine, after eating the fish, is attended with the most desirable consequences. The poison is either prevented from acting altogether, or the symptoms of its action are infinitely less violent than when nothing of this kind has been taken. Instances of the correctness of this observation are innumerable. A fact evinces the utility of this simple preventive: it is drawn from a comparison of the consequences of eating poisonous fish, as they are seen in slaves and the more indigent white people, who cannot afford, or are not allowed this indulgence; and in the more opulent who make use of it. The former are afflicted with the whole train of symptoms of the poison, whilst the latter remain, with a few exceptions, exempt from its pernicious action. It is to be observed too, that this exemption is in proportion to the quality of the liquor drank: thus, if any good ardent spirit is used, the exemption is almost always complete; if Madeira, or any other strong bodied wine, it is less so; but if claret of the usual body sold in the West Indies before the French Revolution, is used, there is either no exemption, or a very imperfect one. It must be obvious, however, that this preventive can be beneficial only before the poison is received into the circulating mass; after that it will be not only without efficacy, but productive of dangerous consequences. It is hence that some well informed gentlemen in the West Indies have denied the efficacy of it altogether, and in some instances treated it even with ridicule; but that they have done so unjustly or injudiciously, is manifested not by my experience alone, but by that of many intelligent and eminent physicians in the different islands *.

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* The wisest of men hath set down as a maxim, "Give strong drink unto him that is ready to perish, and wine unto those that be of heavy hearts." Prov. xxxi:

The last part of my subject is the cure, after the poison has entered into the system, and commenced its baneful influence on the vital powers. Towards establishing a successful, at least a rational indication, it is necessary to ascertain the nature of the cause; or, in the present case, of the basis of the poison, and of the morbid changes it produces on the body. The obscurity of the subject, renders the former, in all cases of the poison of fish, uncertain; the latter is demonstrated, in fatal cases, by dissection. It is indeed more by the morbid changes produced by this poison, and by the train of symptoms it gives rise to, than by any direct experiments on the poison itself, that a judgment can be formed on the nature of its basis. This certainly holds true in the West Indies, where chemical experiments can seldom be recurred to with a successful result. I have been induced by the data I have stated in the preceeding part of this paper, imperfect and doubtful as they are, and by analogical reasoning, to consider the poison as metallic; and my plan of cure has been generally founded on that opinion. I admit the opinion is subject to weighty objections; but in a choice of difficulties, it is the business of the physician to rest on that which certain facts and analogy point out as the least irrational. My object, therefore, has been first to evacuate abundantly. I have excited brisk vomiting by tartarized antimony and white vitriol, after which I have cleansed the intestines by a large dose of castor oil. The early administration of these in practicable cases, has often been sufficient. If not, the next object was to decompose the poison; and to effect this, I almost entirely depended on alkalies in simple solution with water. I never had recourse to the volatile alkalies, although, from the authority of Dr Mead, who proved them infallible

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xxxi. 6. The son of Sirach hath also said, "Wine is as good as life to a man, if it be drank moderately: What life is then to a man that is without wine? for it was made to make him glad." Eccles. xxxi. 27. Galen speaks in high commendation of wine in counteracting the action of "*ψυχρα τη φυσει φαρμακα.*" De Simp. Med. facult. l. iii. c. 20. "*οινος ȣν ἐν τȣτῳ θερμας πινομενος αριστα ἰαμα, και ἡμεις ἠδη τινα κατεψυγμενον ἐσχατως ανεσωσαμεν οινω λεσβιω.* (Calidum itaque id temporis vinum ebibitum præstantissimum est remedium; nosque etiam quendam extremé jam refrigeratum vini Lesbii* potione servavimus.) Paris ed. I may here remark, that the coincidence of the efficacy of ardent spirits in the prevention of the action of the poison of fish, with what Dr Wolf has recorded in one case of hydrophobia, is too remarkable to be passed over in silence. I have not Dr Wolf's cases by me, but the fact may be referred to in the 11th volume of the Encyclop. Britan. Edin. 3d ed. p. 278 and 281.—Does the efficacy of this preventive depend on any chemical principle?

* Hic innocentis pocula Lesbii
Duces sub umbrâ————Hor. Od. i. 17.

fallible against the poison of laurel water, there can be little doubt, we should imagine, of their efficacy in counteracting the effects of the poison of fish, whatever the basis of it may be. The probability at least of this is strengthened by the experiment made on a dog, to ascertain the efficacy of the volatile alkali after life had been almost extinguished by a variety of poisons, and chiefly that of the viper. See Phil. Trans. as quoted in the Encycl. Brit. Edin. v. xv. p. 269 *.

Some of the symptoms demanded particular attention. Thus the excessive violence of the spasm rendered laudanum absolutely necessary in considerable quantity; but I endeavoured to avoid its use, before ample evacuation was procured. The following history is particularly illustrative of the proper application of this remedy. It was communicated to me by a much respected and learned friend, Mr John Ryan of St Croix. Soon after Mr Ryan's return from Europe, where he had received a complete medical education, to his native island Montserrat, a remarkable and melancholy instance of the effect of the poison of the barracuda occurred to him. A large barracuda had been caught, of which thirty persons (negroes) ate, all of whom were poisoned, and eleven, who were more improperly treated than the rest, died. A particular friend of Mr Ryan's was the owner of three of the nineteen survivors; but as the proper treatment had not been employed at an early period, time was given to the poison to act so powerfully, as to reduce them to the most deplorable state imaginable. They were convulsed in the most shocking manner, every fibre was contracted, every joint distorted, and every joint deeply excoriated. The pain they felt was so intolerable that they gnawed the flesh from the bones; but no delirium, nothing like tetanus took place. It was difficult to determine on any plan of treatment; for as the poison had been long since intimately mixed with the general mass of fluids, evacuations seemed unnecessary or hurtful. To allay, therefore, the violence of the nervous excitement, was the indication

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* How far are we warranted to consider the chemical affinity of ammonia or the volatile alkali to metallic oxides, particularly the oxide of copper, as an applicable hint in the treatment of the poison of fish? There is a curious observation made by Mr Spalding, the celebrated diver, the consideration of which may be useful here. He says, "that when a person has breathed in copper pipes a few minutes, he feels in his mouth a very disagreeable brassy taste, which continues all the time he remains in the vessel; so that, on this account, copper seems by no means an eligible material. This taste most probably arises from the action of the alkalescent effluvia of the body upon the copper; for volatile alkali is a strong dissolvent of this metal," &c. Encyclop. Britan. Edin. vol. vi. p. 71. art. Diving.

cation which naturally presented itself, and fulfil it, opium was employed. Mr Ryan began by giving each 100 drops of laudanum, and repeated that quantity at the expiration of a few hours. In this manner he proceeded, as he would have done in a case of true tetanus. A change very soon took place; and the continued liberal use of the medicine completely recovered them. Two of them, long after all symptoms of the disease had been removed, but when as yet in the debilitated state of convalescence, were imprudently exposed to the night-dew, which proved fatal to them. I have been more particular in this statement, because it clearly points out the only useful practice in such deplorable spasmodic affections proceeding from this active poison.

Sometimes a singular and very disagreeable sensation remains for months in the soles of the feet, as if boiling oil was running on their surface; at others a pricking, like that communicated to the skin by West India pepper, or like the creeping of ants. In these cases, soaking the feet in strong high wines or alcohol, has the best effect. It has also happened, but by no means frequently, that the skin of the soles of the feet separates by the formation of a peculiar kind of pus beneath it. In this case I have had recourse to bark, and bathing the feet with vegeto-mineral water (ag. lytharg. acetat. comp.) and wrapping them in cloths soaked in it. When, however, the action of the poison perseveres, and these remedies produce no permanent good effect; when the surface of the body becomes an almost continued ulcer, and the limbs are affected with paralysis; then the only remedy to be depended on is mercury, combined with bark (the cold infusion prepared with magnesia more especially), and wine. The use of mercury is gradually to be pushed to salivation, so as to excite the action of the absorbents, whilst the bark and wine strengthen and give tone to the whole habit. External applications, such as camphorated oil, beef-pickle, a mixture of spirit of turpentine and rum, mustard, pickled-herrings, &c. and electricity, have no doubt been of use; but their use has been secondary; as principal remedies I have employed them ineffectually *.

The foregoing are chiefly observations made by myself during a long residence in the West Indies; or they are those of professional men or men in civil life, whose accuracy, judgment and probity, may

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* The coincidence of my practice in the chronic disease produced by the poison of fish, will be remarked, with the singular case related by Dr Hebberden from Dr Monsey, in which very extraordinary symptoms, proceeding from the long-continued use of bullock's liver, as diet, were removed by the use of mercury.

may be depended on. They furnish data on which the speculative philosopher may found a curious physiological disquisition; which may induce the enlightened chemist to institute a series of interesting experiments, for the purpose of establishing an accurate discrimination of the basis of the poison of fish, and of the principle on which the attributed efficacy of some of the preventive remedies, particularly the raw juice of the sugar-cane and sweet potatoe, depends; and which may, I trust, be useful to all classes of men, who, visiting the torrid zone, may be exposed to suffer by this most active, pernicious, and obscure principle.

Clifton, July 20. 1808.

II.

Medical Report for Nottingham, from March 1807 *to March* 1808.

By James Clarke, M. D. Physician to the "General Hospital and Vaccine Institution."

"In every science in which we would wish to arrive at perfection, we should propose for the object of our pursuit some certain station, even beyond our abilities—some imaginary excellence, which may amuse, and serve to animate our inquiry."——Goldsmith.

The science of medicine is yet to be considered only in its dawn, and requires the greatest exertion in its votaries to bring it to perfection. The ability and industry of individuals may do much to attain this imaginary excellence, but it is highly necessary that every one who values his professional acquirements should possess himself of the improvements of the day, and, by nicely combining theory with practice, assist in the formation of a rational system of medicine; for he who resigns himself to the pleasing, but fallacious reflection, that he has surmounted the difficulties of his profession, loses, from that moment, all anxiety for the promotion of scientific inquiry; to him the field of discovery is involved in a mist, he no longer views with complacency the discoveries of the age, but lapses into a state of perfect indifference to the advancement of science.

The profession of medicine is particularly calculated to call forth the energy and resources of an active mind; but it requires attentive observation, nice discrimination, with coolness and fortitude,

titude, exclusive of the theory of the schools, which will ever form the ground-work of science—with these qualifications, no fact can pass unobserved. The loss of one practical fact is a palpable robbery on the public; it is incumbent on every one to throw his mite into the mass: indeed, it is doubtful how a man can answer to his conscience in having indolently deprived the world of that which, if communicated, might have aided to the safety of a fellow-creature.

The avowed object of these reports is the detail of practical facts and observations; in the last series * they were entirely selected from the hospital; but as some diseases are seen in private practice that do not fall under the care of this charity, as contagious, puerperal diseases, &c.; and as conclusions are drawn with more accuracy from a larger than a smaller number, the reporter has been induced to combine his private with the public practice, by which means some diseases enter the table, and will fall under observation, that otherwise would have been altogether omitted, besides adding greatly to the medical cases, and thus much extending the original plan. To these he has likewise added the number of persons vaccinated under his inspection, as, from his situation in the charitable institution for gratuitous vaccination, he is enabled to give an ample and clear statement, from the register of the institution, as well as from personal observation, of the success attending the practice.

That there are states of the atmosphere, which Sydenham calls constitutions of the air, that predispose the body to certain morbid actions, no one will be inclined to deny; it will also be generally admitted, that a sudden alteration in the weather often precedes a marked conversion of disease, which may require an opposite plan of treatment to that which had been pursued in the first instance. Being fully sensible of the importance of this influence, the reporter has introduced a meteorological table, which, by being compared with the brief remarks on the active diseases of each month, will shew how far the epidemics may be explained by a reference to the state of the atmosphere.

With these observations, he now enters on an examination of the epidemic constitution from April 1807 to March 1808.

April.—The pulmonary complaints of this month were easily removed by the remedies usually employed in these diseases.

The porrigo † or scald-head, has appeared with unusual virulence, and it is said to be highly contagious; the ulcerations spread rapidly, and the scabby incrustations are in large whitish flakes.

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* Edinburgh Medical and Surgical Journal, vol. iii. p. 303.

† Willan on the Skin.

The disease continues very obstinate, and completely resists the usual methods of treatment.

May.—The easterly winds and variable weather of this month have much increased the pulmonary disorders.

The *porrigo* still continues very obstinate, and, in many inveterate cases, has not been relieved by any plan of treatment hitherto adopted.

June.—This month commenced with showery weather; the 1st, 2d, 5th, 6th, 7th, 8th, 9th, 10th, and 11th, were all attended with more or less rain; on the 6th and 7th, it was very heavy, with thunder, the wind very variable; the remaining days of the month, except the 20th, were fair. The mild open weather of this month nearly excluded catarrh from the list of diseases, but the insidious destruction it had committed on the phthisical now appeared too evident, and rapidly advancing to that fatal termination, the general result of ulcerated lungs.

Much disposition to *febrile affection* prevailed very generally, and was brought into action by slight causes.

Rubeola appeared towards the end of the month, but in the mildest form.

Paralysis was unusually frequent among elderly persons, and induced by frights or other slighter causes.

July.—The sky was clouded nearly the whole of this month; rain fell on the 1st, 3d, 11th, 12th, 13th, 14th, 20th, 24th, 25th, 26th, 27th, 29th, 30th, and, on the 31st, very heavy the whole day; repeated slight flashes of lightning on the 11th and 12th; the average temperature of the morning was 61° 50. of the afternoon 69° 29. and at night 61° 22. The mercury in the barometer stood high, notwithstanding the continued obscure sky, and the prevalence of southerly winds.

The warm weather of this month proved favourable to the phthisical and convalescent.

The disposition to *febrile action* still continues prevalent, attended with pain and fullness in the head, and general languor. "Southerly winds produce the headach, relax the body, and render it humid, languid and sluggish*."

Rubeola still requires but little treatment, and rarely demands medical attention.

August.—Rain fell in the night of the 4th, 5th, 6th, 7th, 8th, 11th, 12th, 13th, 21st, 23d, 24th, and 28th; in the day of the 11th, 29th, and 30th; vivid lightning, with thunder, on the 24th, and in the evening of the 29th. The heat felt very oppressive during the whole month, but particularly so about the 13th. The mean temperature for the month, in the morning, was 61° 93; for the afternoon, 70° 60; at night 62° 41; the wind mostly southerly.

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* Huxham on Epidemic Diseases.

Cholera, the usual attendant on autumn, was very prevalent, and the symptoms, in some cases, unusually violent. The treatment adopted, when the reporter was called in the early stage of the disease, was to relieve the stomach by administering freely of warm gruel; but should the efforts to vomit become violent, with an increase of pain, an opiate generally gave relief, and enabled the stomach to receive calomel and rhubarb, or castor oil: after the operation of the purgative, the patient complained only of debility, which was removed by the usual means. When improper remedies have been employed, by the advice of officious neighbours, the safety of the patient entirely depends on the most expeditious means to counteract the bad effects likely to ensue; a slight hesitation, and all is in vain: the patient will sink, exhausted by those convulsive efforts which give the greatest alarm in this disease; the physician must be firm and collected; a short period will decide the fate of the patient.

Children have suffered much from the infantile remittent fever *; the most prominent symptoms were—urgent fever, drowsiness, listlessness and inaptitude to motion, depraved appetite, picking of the nose, lips, fingers, or clothes, pungent heat of skin, tumid and painful abdomen, irregularity of the bowels, with greenish and slimy stools. It was treated by purgatives at intervals, and by a powder composed of tartrit of antimony, magnesia, carbonate of lime, and rhubarb, in such proportions as to keep the primæ viæ in a proper state, and by this treatment it has, in general, been speedily subdued.

Rubeola.—This disease has acquired much virulence; the eruption has, in general, been preceded by vomiting and purging, with much pain in the bowels, urgent fever, but little cough or sneezing. The eruption generally appeared on the fifth day, but oftentimes later; the vomiting then ceased, but the diarrhœa and fever continued. In several instances there appeared great tendency to gangrene. "Nay, the very measles themselves, at this time, turned livid, and destroyed more than the small-pox †." In two cases where a blister was applied to the chest, the part mortified, and, notwithstanding the use of every means to stop the progress of the gangrene, both children died. Three more instances of the same

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* Butter on the Infantile Remittent Fever; Hamilton on Purgatives, 2d edit. p. 46.

† Huxham on Epidemics, vol. ii. p. 131.

same nature fell under the observation of other practitioners. Two children, for whom no remedies had been used, were brought for relief with mortification of the upper jaw, immediately consequent on *measles ;* all the front teeth of that jaw had fallen out, and gangrenous spots appeared in the cheeks.—The sufferings of both infants speedily terminated in death. Such dreadful cases fortunately occur but seldom.

Dr Willan remarks: "I never saw the rubeola terminate by gangrenous ulcers of the throat, cheeks, gums, &c. or by caries of the jaw bones, as stated in several respectable authors*." After quoting Huxham, who relates that he more than once, in July 1745, observed gangrene of the fauces and caries of the bones from measles, Dr Willan, in the same note, adds, that the epidemic mentioned by Huxham was often succeeded by ophthalmia, quinsey, ulcers in the fauces, sometimes a parotis, with an erysipelas in the head. "It was therefore probably the scarlatina anginosa, not the measles†"; and he supports this opinion by asserting Huxham's want of nice discrimination in the use of terms. With what justice this accusation may be made, it is not for the reporter to determine; but he will affirm, that the cases in which he observed this gangrenous disposition bore no relation to scarlatina anginosa, or indeed to any other disease but measles.

An adult in a state of pregnancy, in whom the symptoms were very unfavourable, aborted, but recovered very speedily; the disease in these cases too often terminates fatally. In children, when the bowels had not been kept sufficiently laxative, the measles were followed by cholera, or the remittent fever, and in one instance by an eruption of watery vesicles‡, similar to that described by Dr Willan as an occasional sequel of measles.

The *porrigo* still continues with the same virulence. Many children have returned from school, the head almost covered with white flaky incrustations; it is confidently asserted to be highly contagious. The only treatment the reporter has found successful in this troublesome disease, is, the internal exhibition of the black sulphuret of quicksilver, combined with rhubarb, and occasional purgatives of calomel and jalap about every third day, at the same time the head, being closely shaved, is washed with a strong solution of soft soap, night and morning, and afterwards anointed with the milder ointment of nitrat of quicksilver.

September.—Rain fell on the 4th, 5th, 6th, 8th, 9th, 14th, 19th, 20th, 21st, 22d, 23d, 25th, 27th, 28th, and 29th. On the 8th a severe hail storm. Frost appeared first on the night of the 12th, and continued every night during the remainder of the month. The wind chiefly westerly. The mean temperature in the morning was 49° 56; in the afternoon, 57° 03; at night, 49° 30.

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* On the skin, Vol. i. p. 225. † Id. p. 226. ‡ Id. p. 224.

The cold frosty weather of this month gave a sudden check to cholera. Diseases of debility became prevalent. The cases of typhus were mild, and did not spread the contagion. The measles continued with the same malignancy. One child died of the rubeola nigra of Willan. This most probably is the disease to which Dr Adams alludes, when he says, "I am still satisfied that there is a putrid measles, and that it is more prevalent at some seasons than at others*." The measles have left a troublesome cough, with hoarseness, and, in many instances, fever with diarrhœa. *Scarlatina* has appeared in a very mild form, without any affection of the fauces.

October.—Rain fell on the 1st, 7th, 13th, 21st, 22d, 26th, 27th, and 30th; on the 22d it was very heavy, and accompanied with much wind. The medium temperature for the morning was 50° 93; for the afternoon, 57° 29; at night, 51° 07. The wind mostly southerly.

Rubeola is seldom observed, and has now become much more mild, and requires very little treatment. The disposition to *fever* is very prevalent.

Typhus.—The cases of this disease have been very tedious, not violent, or attended with any unfavourable symptoms; only one case presented petechiæ. The patients were all affected with diarrhœa during the whole course of the disease; very little relief was experienced from wine; sponging the body with vinegar and cold water, and the exhibition of the nitric acid, appeared to produce the favourable change; no good effect was produced by wine until a moisture had appeared on the skin, before which it appeared to increase the fever, and favour determination to the head.

November.—Rain fell on the night of 1st, 2d, 8th, 9th, 10th, 16th, 19th, 22d, and on the 25th; in the day of the 3d, 5th, 10th, 11th, 15th, 20th, and 23d: snow on the 9th, 10th, 11th, 13th, 18th, 19th, 20th, 22d, and 27th. Every night after the 8th was attended with frost. The thermometer in the east, on the night of the 27th, stood at 25°. The mean temperature in the morning was 37° 30; in the afternoon 41° 41; at night, 38° 10. The wind chiefly westerly.

Among the diseases of this month, *catarrh* holds a conspicuous place; it became general with the increase of wet and cold; the fever was very urgent.

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* Morbid Poisons, 4to Edit. p. 394.

Measles appear very seldom; numbers of the children who have had the disease suffer from the remittent fever, which has proved extremely fatal.

Synochus has been unusually prevalent, and of long continuance, often attended with diarrhœa.

Typhus.—The cases of this disease have terminated favourably; none were violent or attended with petechiæ; but the patients generally complained of a deap-seated pain in the abdomen, which was somewhat distended, or in the left iliac region, which, if not attended to, was followed by diarrhœa, evidently arising from an accumulation of hardened fæces. By the exhibition of a purgative, much discoloured fæces were passed, and the pains removed; the purgative was sometimes repeated more than once to produce the necessary relief. It is not unusual to observe in typhus, as well as in synochus, a yellowness in the middle of the tongue, and soon after this appearance an increase of fever, which is to be prevented only by the exhibition of a purgative; if the first should not succeed, the second mostly proves effectual. If this marked symptom be neglected, a diarrhœa generally follows, which, in the course of a few hours, will produce excessive debility; nothing can save the patient but the speedy removal of the accumulated fæces. The relatives of a young woman ill of typhus fever, applied to an irregular for something to stop a purging. She received an astringent mixture, with laudanum: under the use of this the diarrhœa soon ceased; but an augmentation of fever, delirium, and speedy death ensued. This is one instance only among many others that might have been detailed. Many practitioners have been deterred from the use of purgatives in typhus, fearing to increase the debility which this disease is known to produce, and have allowed their patients to sink into the grave from the effects of a distressing diarrhœa, leaving the event to nature, when she ought to have been assisted, protecting themselves under the hypothetical doctrine of Brown in the treatment of typhus. "It is then debility alone, that is to be regarded in the cure, and stimulant and antisthenic remedies alone that are to be administered*." This may read very pretty; but no reason has yet been assigned why mankind are obliged to admit the justice of every remark that an author may choose to advance in support of an hypothetical system. But farther, purgatives are highly necessary in typhus, to prevent that disposition to hæmorrhage, arising from determination to the head, or congestion in the viscera, which, by its excessive violence, sometimes proves fatal in a few minutes. In these unfortunate cases, by far the most common fatal terminations of this disease, if the hæmorrhage has been from the intestines, the whole primæ viæ will, on dissection, shew strong marks of vascularity; the more minute vessels will appear deeply injected with blood. Of this every one who has had an opportunity of examining bodies after death will be fully aware, and many cases of the same nature are to be found in Morgagni. It is high time to shake off the trammels of theory, and take nature for our guide. The bold plan pursued and recommended by Dr Hamilton may excite the astonishment of a few, but practice will prove the truth of a system, the result of attentive observation and extensive experience.

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* Elements of Medicine, Beddoes's Edit. vol. ii. p. 316.

December.—Rain fell on the 6th, 18th, 26th, 28th, and 29th; snow on the 8th. Frost set in very severe on the 6th, and continued with very little intermission to the 25th, when a thaw commenced; the nights of the 3d, 29th, and 31st, were very stormy. The mean temperature in the morning was 36° 16; in the afternoon, 40° 42; at night, 37° 84. The wind mostly westerly.

Catarrh has been very general, so much so, as to have acquired the name of influenza, but there was no reason to suppose it contagious; the cough was not violent, nor was there much coryza; but many complained of a painful suppression of urine during the first two or three days of the disease. This troublesome symptom was removed by the warm bath, and a purgative; there was no symptom to indicate bleeding. Infants, convalescent from measles, have fallen easy victims to this disease, being suddenly attacked with difficult and almost convulsive respiration, and died in a few hours.

Scarlatina has appeared in a few persons, but very mild, and without any affection of the throat.

The *Infantile Remittent* still continues very fatal to children exhausted by a succession of disease.

January 1808.—Rain fell on the following days, the 5th, 9th, 11th, 29th, and 30th, and in the night of the 1st, 2d, 4th, 13th, 14th, and 28th, with strong wind. Snow fell on the 3d, 16th, 20th, 21st, 26th, and 27th. The mean temperature of the morning was 36° 39; of the afternoon, 40° 36; at night, 37° 77. On the 22d at 8 A. M. the thermometer stood as low as 17°, and the same time the next morning at 36°, being a variation of 19° in 24 hours. The barometer presented a variation of 95′ in 24 hours, from the 14th to the 15th. The wind this month mostly westerly.

Catarrh is still prevalent, attended with pain in the side and chest, which is speedily removed by a blister. In some cases, where bleeding has been employed, a lingering fever has followed, attended with great debility.

« A dread of mad dogs is the epidemic terror which now prevails, and the whole nation is at present actually groaning under the malignity of its influence*."

Much alarm has been excited within the last two months in this town and neighbourhood by a disease among dogs, said to resemble rabies; several men and children were bit, but no hydrophobia has ensued, although few employed any remedy. Some certainly went to the coast for sea-bathing, which has had the merit of being considered a certain preventive, but experience has too often proved the fallacy of relying on this plan. A boy was admitted into the hospital with a wound on the fleshy part of the thumb from the bite of a dog supposed mad. Caustic was applied to the part, and small doses of calomel exhibited night and morning; the injury had been received more than seven days before he applied for assistance, but no symptom of disease appeared, and the boy has ever since remained in good health. The dog was destroyed as soon as possible, but not before he had bit a pig, which, after the lapse of some days, was killed from suspicion of madness.

When the cry of « mad-dog, mad-dog," arises, death is the inevitable portion of the animal; and, by the vulgar, it would be considered the highest point of rashness to attempt saving it from immediate destruction; but one instance has occurred, where a man had sufficient firmness to resist the public cry, and to put his dog, which had bit two children, into a place of safety; he eat and drank the same day as usual; this a rabid animal might have done; but he has continued ever since in perfect health; nor have the children, although no means were employed, experienced one unpleasant symptom: had this animal, on the contrary, been destroyed, it would have been added to the list of mad-dogs, and the relations of the children would have remained, at this moment, in a state of suspense.

There certainly has been considerable disease among dogs, attended with different symptoms; some were suddenly attacked with giddiness, turning round several times, run staggering and biting at objects in their way, and then unexpectedly drop down dead; and this probably in two or three hours after the first seizure. One looked dull in the eye, and frothed in the mouth; a vomit of tartrit of antimony cleared his stomach and bowels, and removed all disease. These complaints were most prevalent in dogs exposed to the temporary influence of a fire. In the public newspapers, about this time, a circumstance is related of a strange dog entering a coffee-room, on a very cold frosty day, and lying down before the fire, from whence, after sleeping some time, he sprung up, and made repeated attempts to bite those in the room, until destroyed; this might be rabies; but it may, with equal probability, be attributed to phrenitis, arising from the sudden alteration of temperature, to which the dog exposed himself.

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* Citizen of the World.

In addition to the instances of disease in the dog which have been related, two others occurred in June 1808. A small dog appeared dull for a day, then bit his master in the hand, and ran away. He was cautiously pursued, brought home, and placed in a state of confinement, where, after refusing all food, he died on the second day. The body being opened, the stomach œsophagus, and intestines, were free from any morbid appearance. The lungs were much inflamed. Caustic was applied to the bitten part soon after the wound had been received; about a week after, the man complained of nausea, and oppression at the præcordia; an emetic was exhibited, and assisted in its operation by warm water, with a few drops of the water of ammonia, since which he has continued in perfect health. The other instance certainly presents a very unfavourable appearance; and, as the reporter paid particular attention to the symptoms which the animal exhibited, he thinks a full detail may be acceptable; and he is the more disposed to this, from the little information which he has been able to procure on this subject from books, or personal inquiries.

The dog, a terrier, was reported to have been bit by a strange dog, reputed mad, that ran through the town, on the 6th of June, and in its way bit other animals, all of whom were immediately destroyed; but as the report of this dog being injured was not conveyed to the owner, he was allowed his liberty as usual. About 16 days after, he was observed repeatedly quarrelling with a large powerful mastiff, on the same premisses, with whom he had always been friendly; this circumstance did not excite any surprise at the time, but was supposed to arise from both dogs being more confined than usual, in compliance with a public order for the confinement of dogs during the prevalence of rabies. On Friday evening, July 1st, he followed his master's daughter, and her playmate, into the hay field, where, during their play, the little girl fell upon the hay near him; he immediately bit her in the leg; but being naturally a savage animal, and the bite slight, it was attributed to accidental surprise, and no notice taken of the dog until the next day, when he was observed to look particularly dull in the eye, to hold the mouth wide open, with the lower jaw fallen;

a disinclination to food, although he eat a small portion of buttered-bread. These appearances exciting strong suspicion of rabies, he was immediately chained up in his kennel. On the evening of Saturday July 2d the reporter first saw him, and he will now attempt to give a clear detail of the result.

The eyes were dull, and almost closed by a yellowish matter; the mouth half open, the lower jaw fallen, and only closed when crouching upon the ground; vapour constantly issuing from the mouth; makes many vain attempts to pass urine and fæces; scratches up the earth with his fore-feet, biting it, and then rolling on it; lies down quietly for a few seconds, then starts up suddenly, and howls in a very unnatural tone; the tail hangs down, ears are erect, does not shew any fear, has not swallowed food since the morning; he appears rational, advances to the person calling him, as far as the chain will permit: water being poured into a bason before him, he rushes towards it, and eagerly laps, but makes no attempts to swallow; takes buttered bread in the mouth, turns it round, and lets it fall out again; keeps the tongue, which is quite black, entirely within the mouth; no flow of saliva, but, on the contrary, the mouth appears parched; makes no attempt to bite the kennel; shews great dislike to be left alone, by horrid howling.

July 3d—Has howled almost the whole night, has not swallowed food, laps water with the same eagerness as yesterday, has not passed any urine or fæces, has made several ineffectual attempts to vomit, much more restless and impatient, mouth as yesterday, no flow of saliva; gnaws the kennel, bites the chain, or any thing that appears to confine him.

July 4th—Bites at any object put near him; does not refuse food, and still laps water, but cannot swallow; mouth as before. In the afternoon some castor oil was poured down his throat by a strong man who, for safety, had fixed his head, by a fork placed over his neck, and forced into the ground at the extremity of his chain; he did not attempt to bite, and became more tractable; swallowed some gruel, vomited much dark-coloured fluid, passed both urine and fæces, became more composed, but was found dead at four the next morning. The body was opened as soon as possible by Mr Kenney, veterinary surgeon of this town. Much slimy mucus was found under the tongue; the parotoid glands greatly enlarged, the uvula and inner coat of the stomach much inflamed, one lung was also inflamed, the stomach contained some dark-coloured fluid, some coagulated blood between the dura mater and pia mater, but no inflammation of the membranes; the vessels of the brain turgid with blood, the jaws free from any bruise or injury, no inflammation of the œsophagus, or intestines, which were quite empty; the bladder was free from disease.

It yet remains doubtful if the disease of which this animal died be rabies; very little satisfactory detail of the symptoms in the dog is to be met with, and dissections are still more rare. The clearest statement of the disease is from the pen of Mr Meynel *, whose opportunities for information on this subject cannot be disputed: He describes a disease called the dumb madness, which bears strong analogy to the one detailed here. Dr Hamilton of Ipswich has, ten years since, given to the public two volumes on hydrophobia, which contain much valuable matter. The young girl who was bit had caustic applied to the part, and in about six days after, was sent to the coast for sea-bathing, where the surgeon extirpated the wounded part with the knife.

No satisfactory information could be procured from those persons in this neighbourhood who have been brought up to the care of hounds; they all judged by the eye, and were incapable of conveying their information but in a mass of contradiction, from which it is difficult to draw the truth. Further progress must be made in the knowledge of this disease, as it affects the animal itself, before we can expect to profit by any preventive measure. It is in vain to attempt to eradicate a disease which is known only by its dreadful effects. An animal appears dull; he is not thought worthy of attention until he bites some individual; he is now obliged to run the gauntlet for his life; first one and then another aims a blow; the animal naturally bites at any thing opposing his escape; still the panting multitude press on him; now a mortal wound lays him expiring at their feet, whilst mutual congratulations pass at the success of their pursuit. Some hasten with the tidings to the unhappy man that has been bit: it will be great consolation for him to hear that the dog is dead, that he must have caustic on the part, or permit extirpation; go to sea-bathing, take the Ormskirk medicine—in fact, do every thing that any foolish old woman may recommend, and, after all, remain in doubt if the dog were rabid. His misery will not be much diminished by the relation of instances of individuals who had been bit, complying with all the regulations pointed out by the best advice, and after all, died raving mad; or, of the many persons who have been unexpectedly attacked with hydrophobia many years after the bite. Thus the acquaintances of the unfortunate man are determined to terrify him into a derangement to make good their prophecy, or why should they harrass his mind by the relation of results so tormenting to his feelings.

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* Manchester Memoirs, Vol. iv.

When a dog is arrived at a state of fury, it is certainly highly expedient for the safety of the public that he should, if not in a state of confinement, be destroyed as soon as possible; but dogs often bite persons when perfectly free from madness, and at the commencement of rabies. It is in these instances that the greatest advantage would be derived from putting the animal under the confinement of a strong chain, remote from any other animal; by this plan they are prevented from doing any more mischief, and the nature of the disorder will soon unfold itself. How great must be the joy of a parent, to be relieved from a state of undescribable misery, by the happy tidings that the dog by which her child had been bit was not rabid, and that proper confinement had enabled the proprietor to obtain this satisfactory result. But when a dog that has bit an individual is killed on bare suspicion of madness, what time can be stated as sufficient to remove all fear as to the result? many months, nay it is even said many years have intervened, and hydrophobia has even then exerted its fatal power [*]. "It would perhaps, at length contribute to remove this uncertainty, if those who are applied to in these interesting emergencies, would consider themselves as obliged by the honour of their profession, and the ties of humanity, to note with all possible precision and impartiality every incident in the progress of this disease; and, whether they pursue the hints here suggested, or take up more rational ones from their own store, would communicate the result to the public. By this method the field of conjecture would be contracted, and our successors directed to new objects of investigation. The result would be not less honourable to those who engage in the search, than beneficial to mankind in general [†]."

Scarlatina has appeared only in the mildest form; *measles* are seldom observed.

February.—Rain fell on the day of the 2d, 6th, 18th, 23d, and in the night of the 1st, 3d, and 5th; snow on the 8th, 11th, 12th, 13th, and 15th. The snow that fell on the 11th and 12th, was about 9 inches deep, but where drifted upwards of 14 feet; the roads became totally impassable. On the 15th a thaw commenced, which being checked by the nightly frosts, occasioned a very gradual dissolution of the snow. On the 25th the barometer stood at 30° 74, the mercury was never before observed so high in this town. The mean of the thermometer for the morning was 36° 65, for the afternoon 41° 89, for the night 37° 48. The wind mostly westerly.

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[*] Bardsley's Medical Reports, p. 256.

[†] Fothergil by Lettsom, vol. ii. p. 247.

Catarrh became extremely prevalent this month, very few escaping. It generally commenced in the early part of the month, with languor, lassitude, pain in the back and limbs, rigors, followed by pungent heat of skin; very quick, but often feeble pulse; much cough, with copious mucous expectoration; great pain in the head, and mostly over the orbits; loss of appetite; much thirst; whitish crust on the tongue, which was in some instances red and swollen; the lips and teeth after sleeping covered with a blackish crust, but in most instances during some part of the disease a yellowness appeared on the tongue, and in some cases diarrhœa. About the middle of this month a remarkable change appeared in this disease; every case was now attended with high inflammatory action. The patient complained of much pain in the sides and back, greatly augmented by deep inspiration, pain over the orbits, with a redness of the eyes; in some the tonsils and uvula were inflamed, without any scarlet efflorescence on the skin; in others, very high fever, attended with delirium. In a few instances of those that died, where inspection was permitted, the membranes of the brain were found in a sate of inflammation, with congestion of blood in the sinuses. In old people, and the plethoric, there was a marked conversion into pueumonia *. The asthmatic suffered very much; and in those pedisposed to phthisis, it terminated fatally.

In the early part of the month the lancet was seldom used; but towards the latter end, when the inflammatory constitution had acquired so much power, bleeding was the only remedy on which any reliance could be placed; early abstraction of blood in considerable quantity, and by a large orifice, procured immediate relief, and it always presented an inflammatory appearance; but it must be again repeated, that the blood was drawn by a large orifice, that is, as speedily as possible, a rule that holds good in every active inflammation. A small bleeding in this disease did injury, but the effect of a sudden abstraction of a considerable quantity of blood, was too salutary to be overlooked †; the bowels were at the same time kept laxative. In the cases with delirium, blisters to the head, leeches to the temples, keeping the chamber cool and perfectly still; these, in addition to the copious bleeding, generally proved effectual. *Measles* appear principally among adults, and require bleeding and purgatives.

The *infantile remittent* has been very prevalent, but less violent, and more easily subdued.

Ophthalmia.—

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* See Ferrier on the Conversion of Diseases.

† Pemberton's Practical Treatise, p. 23.

Ophthalmia.—This disease has in some few instances appeared very violent, attended with excessive pain in the ball of the eye, compared to the irritation of glass or sand; pain over the orbits; flashes of light before the eyes; intolerance of light; full and hard pulse. These symptoms required the most energetic treatment; copious bleedings from the arm; leeches and blisters; scarifying; purgatives; strict antiphlogistic diet; total seclusion from light and fires. In the secondary stage of the disease, when all inflammation has ceased, and when, from the virulence of the disease or neglect, it had terminated in an opacity of the cornea, the film was soonest removed by the application of the ointment of red oxide of quicksilver, by a fine pencil, under the eyelid *.

Prurigo appeared as an eruption of whitish papulæ, exciting very great itching, particularly at night, and when warm in bed, which on being ruptured discharged a watery fluid, but *never* put on a pustular appearance. The disease affected two or three of the same family; others were equally exposed and escaped, although they had not taken any means of precaution. These symptoms appear to comply with Dr Willan's description of prurigo †. The disease unfortunately occurred in a family where it was of great moment to ascertain its exact nature; it was called scabies by one medical attendant, and treated successfully with the sulphur ointment; by the reporter it was denominated prurigo, and successfully treated by aperient medicines; the application of the white precipitate ointment, and mild diet. But the important point to determine, was the probability of the disease being contagious, or, in other words, should a school be broke up, and the scholars sent home on the appearance of this disease among them? The definition of scabies, as given by Cullen, is, "Pustules and small itchy ulcers, contagious, affecting the hands". This certainly does not apply to the disease; the method of cure does not go farther in elucidation; both diseases may be cured by the sulphur ointment; but it is very doubtful if the true itch could be cured by the means the reporter applied to his case, although the family attributed the disease they experienced to the very individual he received under his care.

March.—Rain fell on the 1st, 14th, 20th, and 21st; snow on the 18th, 19th, 24th, and 31st. The barometer averaged unusually high; the mean temperature in the morning was 38° 74; in the afternoon 44° 13; at night 37° 77. The wind easterly from the 5th to the 31st; the weather particularly clear and fine.

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* See Scarpa on Ophthalmia.

† Willan on the Skin, vol. i. p. 56.

The *inflammatory* constitution, as might be expected, is not diminished; *pneumonia* and *catarrh* have appeared during the whole month, with violent inflammatory action, and demanding the strongest antiphlogistic treatment.

Many persons have been suddenly attacked with a painful enlargement of one testis, without any redness on the surface of the scrotum, attended with a whitish glary discharge from the urethra, but no other symptoms of disease. It has affected both young and old, when there was not the least suspicion of venereal infection; the maxillary glands were carefully examined, but in no instance were they the least affected; in a few instances, this followed catarrh *. It was treated on the antiphlogistic system until the testis would bear handling; then the quick-silver, with camphor, soon removed the hardness; but the discharge from the urethra obstinately resisted all treatment, and, most probably, ceased as the constitution regained its pristine vigour.

Scarlatina was very mild, some with, others without ulceration of the fauces, and cynanche without efflorescence on the skin. The only severe state of disease occurred in a female under ten; the throat was swelled and ulcerated, deglutition impeded, the skin thickly covered with efflorescence, acute fever, with delirium. She resided in a low cellar, where one small room served every purpose; here stood the bed, the father's stall, and the mother's basket-work to beat cotton; lighted by an area window, with every crack industriously covered with paper. All slept together, on one bed, yet no one took the disease. The same has been repeatedly observed with respect to typhus. This insensibility to contagious effluvia is noticed by Dr Adams, in the following remarks: "Thus, whilst infectious atmosphere, town endemics, and epidemics, are, in their extent, formidable in proportion as the air is less pure, the contagions, on the contrary, seem to increase in activity with the purity of the element †." Surrounded, as this poor child was, with filth and extreme poverty, she would most probably have sunk under the disease, but from the aid which the hospital afforded in supplying medicines and attendance at her home, her disease not being admissible to the house. However loathsome or disagreeable such visits may be, it is a necessary duty that the physician has imposed on himself, which it becomes him to perform without a scruple.

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* Ferriar's Medical Histories, Vol. ii. p. 88.

† Morbid Poisons, 4to edit. p. 884.

"Come! search within, nor sight nor smell regard,
The true physician walks the foulest ward [*]."

Intermittents.—Some cases of irregular agues have appeared in a few privates of the regiments quartered here; all these individuals had, immediately previous to their attack, come from a marshy quarter; some of them had even experienced intermittents there. The disease, as it appeared here, was so unusual, as to merit a full detail. The type was very irregular; six, seven, ten days, or more, elapsed between the paroxysms, which came on irregularly, with very strong rigor, followed by great heat and much sweating; tongue of a lardish white fur, sometimes yellowish, appearance; pulse full, hard, and quick; countenance tinged with yellow. The rigor returned with some in the evening, but with others in the morning. Blood drawn exhibited a buffy coat. The patients were all impressed with the idea that the disease was ague. Bark increased the fever, and was, in some cases, followed by violent hæmorrhagies from the nostrils. Febrifuge medicines, bleeding, purgatives, all were tried in vain, with the severe cases; some of the slighter were cured under one or other of these plans of treatment. In a few, cold affusion was employed in the hot fit; it shortened the paroxysms considerably, but did not produce any farther alleviation. Arsenic was then given; but as those who took no medicine were gradually recovering, it was omitted, and the troops were marched from this place before the result of all the cases could be known. Although in no one instance did the disease end fatally, yet it is also probable that nature effected the cure. Home gives an account of a fever among the troops in Germany, which bears a strong resemblance to this disease [†].

The meteorological table, which now demands attention, requires a little explanation. The observations commence with the month of June. The thermometer and barometer are by Jones, of Holborn, London. The thermometer, with a Fahrenheit scale, is placed without a window, in the west aspect, and is completely in the shade, when the observations are taken at eight A. M. two P. M. and eleven P. M.; it is in the centre of the town, surrounded by buildings, protected from currents, and not exposed to reflected heat. The barometer is on a staircase, never exposed to heat from a fire or the sun; the observations are made daily, at two P. M. The direction of the wind is taken at eight A. M. two P. M. and at dusk, from the vane of a neighbouring church steeple, of such an elevation as not to be affected by under currents.

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[*] Crabbe's Poems, p. 42.

[†] Medical Facts, &c. p. 16.

rents. The quantity of rain is estimated by the pluviameter of the Rev. Mr Blanchard, of this town, who has long directed his attention to this subject.

Nottingham is situated in latitude 52° 59′ 35″ N. and longitude 1° 7′ 0″ W. of London.

METEOROLOGICAL TABLE from June 1807 *to March* 1808.

MONTHS.	THERMOMETER.				BAROMETER.				WEATHER.		WINDS.				PLUVIAMETER.
1807.	Highest observation.	Lowest observation.	Mean for the Month.	Greatest variation in twenty-four Hours.	Highest observation.	Lowest observation.	Mean for the Month.	Greatest variation in twenty-four Hours.	Fair Days.	Wet Days.	N. and N. E.	E. and S. E.	S. and S. W.	W. and N. W.	Rain in Inches.
June	75°	46°	57.85	10°	30.31	29.53	29.95	- .33	20	10	24	5	24	37	3.00
July..........	80	52	64.00	8	30.50	29.52	29.90	- .56	17	14	11	8	55	19	2.55
August	78	53	64.98	9	30.18	29.59	29.85	- .34	28	3	11	11	53	18	1.40
September...	67	40	51.93	10	30.15	29.21	29.69	- .55	15	15	5	1	43	41	1.70
October......	65	40	53.29	14	30.15	29.19	29.83	- .51	23	8	8	8	51	26	1.70
November...	50	26	38.93	11	30.10	28.43	29.44	- .80	14	16	16	2	41	31	3.33
December....	50	24	38.14	13	30.24	29.11	29.84	- .55	25	6	2	9	48	34	0.93
1808.															
January.....	49	17	38.17	19	30.39	28.97	29.79	- .85	20	11	2	3	51	37	1.40
February	55	22	38.67	13	30.74	29.42	30.05	- .57	21	8	21	3	21	42	0.54
March.......	52	32	40.21	6	30.39	29.57	30.12	- .31	23	8	65	16	...	12	0.58

This table, it will be observed, affords a very easy means of ascertaining the nature of the weather for the time it includes, and is more particularly directed to explain how far any epidemic observed here may have depended on any peculiar state of the atmosphere at the time.

Before entering upon an explanation of the table of diseases, it may be necessary to copy the Auditor's report of the patients admitted and discharged at the General Hospital, from March 28th, 1807, to March 25th, 1808.

	In.	Out.	Total.
Remaining on the books, March 25th, 1807,........	58	431	489
Admitted since, of which 140 were accidents,.....	314	1127	1441
	372	1558	1930
Cured..................................	152	826	978
Relieved............................	3	40	63
At their own request, and irregularity,................	22	15	37
Non-attendance, most of whom were cured,........	—	222	222
Without relief, ...	6	2	8
*Dead,................................	14	—	14
Out-patients made in-patients,..........................	—	34	34
In-patients made out-patients, ...	98	—	98
Remain on the books, March 25th, 1808,....	57	419	476
	372	1558	1930

The average number, for last year, has been 54 in, and 449 out-patients.

The table of diseases may be divided into three heads of practice:

	Patients.
The General Hospital received...........	1441
The Vaccine Institution......................	242
The Reporter's private practice..........	721
Total....	2404

The 1st column of the table shews the name of the disease, the 16 succeeding state the ages, as, under 5, under 10, &c.; the next two present the comparative numbers of males and females, which are followed by 13 columns for the months, commencing with the 25th of March and ending with the 25th of March following, in compliance with the Auditor's report. Cullen's Nosology has been followed, but where noted to the contrary. The diseases of the skin are arranged according to Willan.

In concluding this report, it remains only for the Reporter to remark, that accuracy and conciseness have been his aim; how far he has succeeded the public must judge.

Nottingham, July 30th, 1808.

III.

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* No account of deaths among out-patients can be procured.

III.

Case of Bronchial Polypus, with Introductory Observations. By John CHEYNE, M.D.

I AM glad to find that the diseases of the bronchia are likely to attract more notice than they have done hitherto, for the attention which has been bestowed upon them by no means corresponds with their importance. I would willingly contribute to the investigation, by offering some observations on one of those diseases, viz. the affection of the membrane lining the air vessels of the lungs, which occasions the formation of those substances called *bronchial polypi*.

I shall attempt to explain the varieties of this affection, and also to illustrate the most important species, by adding another case to the few which are already recorded. It should furnish no objection to this inquiry, that bronchial polypi are seldom met with in practice. Towards the establishment of general principles in pathology, an object which the zealous physician will never lose sight of, it is perhaps of as much importance to examine a singular as a common disease.

Bronchial polypi may be divided into two species. We read of the first variety only in connection with hæmoptoe; and it appears to be simply the coagulum of the blood moulded into shape by the bronchial vessel into which the blood had been poured. Generally, if not always, this excretion belongs to pulmonary consumption. The formation of the coagulum checks the flow of blood; but from this suspension we can scarcely say that the patient derives any benefit; for so large a substance in the bronchial vessels, as this generally is, greatly increases the difficulty of breathing, and then its expectoration is followed by a return of the hæmorrhage, and sometimes by the death of the patient.

Several cases of hæmoptysis, attended with this species of bronchial polypus, are related by medical writers. The last which I have met with, and the fullest, is to be found in the sixth volume of the London Medical Journal, ann. 1785. The following is the outline of that case.

Mr Pearse, a surgeon of Penzance, a man of delicate constitution, and close in his attention to business, was seized, in 1772, with hæmoptysis, which was followed by ill health. He had various attacks of hectic. In December 1776, the cough had become very troublesome; it was attended with violent straining, and on the 9th, a large blood-vessel was ruptured, which, in a few minutes, poured out a quart of florid blood. The hæmorrhage abated, but the difficulty of breathing was greatly increased. During that day, and the next, his expectoration consisted chiefly of coagulated blood. On the morning of the 11th, he brought up, with great difficulty, a large polypous concretion. Its surface was covered with coagulated blood. It was fibrous, solid, ramified, white, and so tender, that when thrown into water its finer ramifications were destroyed. The difficulty of breathing was relieved by the removal of this concretion. But, on the night of the 12th, Mr P. was awakened by a tickling cough, which forced up a large coagulum of blood. This was immediately followed by an effusion of blood, so profuse as to destroy him in a few minutes.

Similar cases are given by various authors. Bontius, Tulpius, and Bartholine suppose these concretions to be branches of the pulmonary artery; and they were equally astonished that the patient survived, as that the concretion should have been expectorated, without any previous discharge of purulent matter. *At vero mirabantur medici tantum paranchymatis dissolutionem sine prævio pure.* But by Graetz, the correspondent of Ruysch, (Ruyschii opera), it was explained that these were concretions formed in the branches of the bronchia *.

In the Philosophical Transactions, No. 398, p. 262, Dr Samber relates, that he was sent for on the 15th December 1726, to an officer of the Excise, in Salisbury, who was taken with so violent an hæmoptysis, that, in a short time, he lost nearly three pounds of blood. When Dr Samber arrived, it appeared that the patient, when he coughed, had something loose in his wind-pipe. Next morning he was shown, on a sheet of paper, a substance which the patient had expectorated about half an hour after the bleeding ceased. Upon putting this substance into water, he found it was a polypus, which, by his blow-pipe, he discovered to be hollow; but there were so many holes in it that it could not be blown up. The patient, who had had pulmonary complaints upwards of six months, died of consumption on the 16th January 1727.

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* Thes. Anat. Secundi Asser Quintus.—An anatomical preparation is thus described:—Tunicæ, per asperam arteriam tussi rejectæ quæ si non sint portiones tunicæ intimæ asperæ arteriæ, analogiam saltem habent cum ea, utpote innumeris foraminibus pertusæ et satis quoque tenaces. Puer octo annos circiter natus in tussim molestam incidens, cum febri continua, regecit per vices varias particulas membranaceas porosas satis tenaces et pauces post diebus supremum diem obiit.

I am inclined to think that this has been a specimen of the membrane of croup.

This case resembles that of Mr Pearse in every thing but the form of the excretion, which is said to have been tubular. This structure is not easily understood; but it is probable that it was confined to that part of the polypus of which the diameter was large.

Bronchial polypi of the second species differ materially from those which I have described. They are of a purer white, generally ramified, lamellated, sometimes solid, sometimes tubular, in consistence much more dense. Such as I have had an opportunity of examining, appeared like condensed cellular substance.

De Haen (Rat. Medend.) relates, that a man, during a pleuritic attack, of which he died on the fourth day, expectorated a substance dense, white, oblong, branching like an artery. In dissecting the lungs of this man, some of the ramifications of the bronchia, in the left side of the thorax, were filled with a substance similar to that which had been expectorated, and purulent matter was formed in the lungs. In Dr Monro's museum, there is a substance of the same form, which was expectorated during a peripneumonic attack.

But generally these concretions are symptomatic of a more chronic disease. They are preceded by catarrhal complaints, and attended with cough, wheezing, dyspnœa. The fit of coughing which displaces them is sometimes alarmingly violent. After the expectoration of these bronchial polypi, the lungs feel lightened, as if something which had impeded their play were removed. Those who are affected with this disorder, suffer much from cold, and particularly from the east wind; for thus the catarrhal symptoms are aggravated, and the increase of the catarrhal symptoms generally increases the quantity of the polypous expectoration. Previous to the expectoration of this substance, the cough is not only more troublesome, but sometimes more sonorous. The disease has been known to trouble the patient seven or eight years; but, during that time, he has enjoyed many intervals of good health. Sometimes the concretion appears to be secreted from only a small part of the trachea; at other times, as in M. Bussures' case, Philosoph. Trans. n. 263, p. 545, it lines the mucous membrane from the larynx to the very extremity of the bronchia. It is not peculiar to mature age, although it has occurred oftenest in that period of life. Whenever it is necessary to take blood a buffy coat will be found.

Bronchial polypi, of the second kind, differ materially from those first described, which were said to be mere coagula, separated from the blood which had been poured into the lungs. Those of the second species are produced by a secreting surface, in a state of inflammation. They are justly held as analogous to the membrane of croup. Yet, the action which produces bronchial polypus never rises to such a height as in croup. This view of the disease leads to the cure. The consideration of this need not detain me; we have only to adopt the general indications laid down for the treatment of inflammations to the disease in question.

In the case which is subjoined, the polypous membrane gave me comparatively little concern. But in a patient whose constitution was broken, the concomitant symptoms were alarming. The active measures pursued removed these, and prevented any return of the polypous expectoration, which otherwise might have become a chronic affection, as in the cases related by Dr Dixon, in Duncan's Medical Commentaries, and by Dr Nicol, in the Philosophical Transactions, cases which, in other respects, resembled this.

Dr Baillie, when treating of bronchial polypi, has not shown his usual caution. He says that this disease is not attended with inflammation. The more eminent a man is in the profession, of the greater importance is it to rectify his errors. In the case which follows, in Dr Dixon's case, and in Dr Warren's (Trans. of the College of Physicians of London), and in the case given in Vol. 8th of the London Medical and Physical Journal, 1802, not to mention De Haen's case, where the polypus was a symptom of pleurisy, and M. Bussieres', where purulent matter was found in the lungs, the presence of inflammation is indisputable. Dr Baillie leads us to doubt whether these polypi are ever solid, when he observes, " that the trachea has been *said* to be sometimes filled with a solid substance of the same kind with that which we have described." The bronchial polypi in Dr Baillie's museum may be all tubular; but, in the majority of cases which are upon record of this morbid appearance, the concretion undoubtedly was solid. As far as can be judged, without taking them out of the spirits, the specimens in Dr Monro's museum are all solid.

CASE.

Mr L. between 50 and 60 years of age, has for some months been declining in his health. He has had stomach complaints, and a diarrhœa, which has become habitual; and I am led to think that he has contracted a diseased liver from drinking diluted spirits, a custom which, unconscious of its ruinous tendency, he has long indulged in, although never to intoxication. From having been a corpulent and muscular man, his limbs are wasted, and the flesh of his whole body has become soft. In his cheeks there is all the venous plethora of those who are addicted to the daily use of spirits.

Some days ago I was desired to visit him. In addition to his other complaints, he felt an unusual degree of weakness and languor. His friends observed that there was a change in his aspect, and he had become apprehensive and anxious.

I found him with a cough and dyspnœa. He had thirst, a hot and dry hand, and a pulse full, and rather quick. His tongue was loaded, and his breath of a heavy and disagreeable smell. I desired him to take P. Ipec. gr. xxv. and I begged him to live more temperately.

I saw him again yesterday. He still complained much. The emetic, he thought, had increased the diarrhœa. The breathlessness was increasing. I ordered him a blister for his breast; and as he complained of want of sleep, and of the restlessness of the two preceding nights, I allowed him to have 30 drops of laudanum and antimonial wine. I wished to restore the healthy condition of the skin, which was exceedingly parched.

To-day (May 9th) I found that he had had a better night; his skin was softer, and he imagined himself much better; he is still very feverish, his pulse 100; his urine high coloured, and his breathing troublesome and wheezing, and aggravated by the cough.

Last night he casually mentioned that, for some time, he had been in the habit of spitting up, as he imagined, from his stomach, a substance which appeared to him to be a part of his food undigested. I desired him to preserve it. He presented me this morning with a considerable quantity of this substance, which I find to be portions of a bronchial polypus. These portions are segments of a large circle, and appear to have lined the trachea before its bifurcation. The expectoration takes place after coughing some time with great violence. Many of the pieces are an inch long, streaked on the convex surface here and there with blood. These excretions are of a much greater density than the membrane of croup, and of a finer white. They consist of a succession of layers, are tough on the side which has adhered to the trachea, and are about half a line in thickness.

A pound of blood was taken from the arm, and a low diet enjoined.

May 10th.—There is a thick coat of size on the blood; his pulse 90, and very strong; he has feverish heat, with dyspnœa, hoarseness, and a troublesome cough; he was again blooded.

Upon calling in the evening, I find that the second as well as the first bleeding has given great relief; he is cooler, his cough is easier, and he expectorates freely. The mucus expectorated is puriform. Since the first bleeding, he has expectorated only one piece of the membrane, about an inch long, and nearly as broad; and, on the surface, which seems to have adhered to the trachea, it is of a dark bloody colour, as if the membrane of the trachea had been eroded, and the concretion torn off with violence. I understand that, for several weeks, he has been in the habit of daily expectorating even a larger quantity of the consistent substance than he did yesterday; generally it is quite colourless. The surface of the blood drawn this morning is contracted to less than a half of the diameter of the cup which contains it. His tongue is moist, he has less thirst, and feels easier; pulse 94, and full; bowels still very loose.

May 11th.—He has had a good night; his cough has been troublesome since morning; pulse 88, and calmer, and his skin is moist; he has no thirst. The hoarseness, dyspnœa, cough, and puriform expectoration continue, but there has been no more of the concretion expectorated. He is so weak that he cannot walk across the room.

May 13th.—Mr L. having had an increase of fever yesterday, the bleeding was repeated in the forenoon, and it was followed with the same relief; the fever abated, and he breathed with more ease. After the bleeding he had a good day and night; for his cough he took, every fourth hour, five drops of laudanum.

This morning his pulse is 80, and fuller; the blood is still sizy; his breathing is more oppressed; belly regular. He was bled for the fourth time. In the course of this day he has expectorated only one bit of the concretion, surrounded with mucus. The mucous expectoration is less, and evidently from a surface less inflamed.

May 15th.—The diarrhœa has so completely subsided, that he has not had a stool since the 13th. His breast feels lightened of an oppression which has never been absent since the pectoral complaints seized him. Last night he took at bed-time 35 drops of laudanum, and, during the night, he had no cough; his pulse is 76, his skin moist, and his tongue clean. He lives in an ill-aired street, and it is resolved that he shall go to country lodgings to-morrow.

May 20th.—He removed on the 16th to the country; he continues to recover; his respiration is regular and free; he has scarce any cough; his pulse 76; his tongue clean, and his skin cool and soft; his bowels are regular; for four or five days he has had only one stool daily; he lives on milk and vegetables; he sleeps well; he has regained his appetite, and wishes for permission to walk out; his voice is clear, and his complexion more healthy; he has once or twice expectorated a small portion of the concretion, not larger than a silver penny, filmy, but as hard as cartilage, and resembling it in the purity of its colour.

Leith, *Aug.* 8*th* 1808.

IV.

On the Sensibility of the Inflamed Cornea to the Transmission of Light.

By JOHN VETCH, M. D. in charge of the Ophthalmia Depôt, Selsey Barracks.

ALTHOUGH a morbid increase of sensibility may be considered both as a cause and an effect in the circle of phenomena which constitute inflammation, it has been observed by pathologists, that the presence of this action in an organ of sense, has the effect of diminishing the powers of its specific perception. This conclusion is readily supported by a reference to the effects of inflammation on the organs of taste, smell, and hearing. It is the object of the following remarks to show, that it is applicable also to the organ of vision, and, at the same time, to offer a consistent explanation of that morbid irritability to light which frequently occurs in inflammation of the eyes.

The ophthalmia which has been brought into this country from Egypt, occurs in two different forms, the one of a nature extremely violent, in which the eye is rendered less sensible to the light, the other is proportionally mild, but often attended with a very troublesome *intolerantia lucis.* In the earliest stage of the disease, an attentive observer may distinguish to which of these characters it belongs. In the violent form the vessels are exceedingly minute, the formation of *pus* is more abundant, and there is an early tendency to tumefaction in the *conjunctiva.* The chemosis which succeeds is not formed by a plexus of vessels, but by an effusion, which may be compared to a ring of coral surrounding the cornea, varying, like that substance, in the intensity of its colour, for the most part having only a tinge of red. As the deeper parts of the eye become affected, it is rendered less and less sensible to light; together with an excessive discharge of matter, the *palpebræ* swell and preclude any further inspection.

When the vessels, on the other hand, are observed to be larger, more distinct, and tortuous in their course, the disease has little tendency to proceed deeper than the *conjunctiva,* from which, however, it does not readily recede; the vessels, from the first, extend over its whole surface, and at last they encroach upon the margin of the *cornea*, which no sooner takes place than the light becomes extremely offensive, and continues the most troublesome symptom with which the patient is affected. When red vessels have once appeared on the *cornea*, it gradually loses its transparency; and, by this insidious progress of the disease, the vision may ultimately be lost.

In the violent form of the disease, the effusion into the *conjunctiva*, while it marks its extreme violence, effectually prevents the approach of vessels to the *cornea*; and, as the natural state of the membrane is restored as soon as the chemosis subsides, the *cornea*, although liable to be ruptured by the pressure from behind, or ulcerated by the lodgement of matter on its surface, is never directly involved in the disease, and the light is never found to give uneasiness.

In the morbid actions of the cornea, there is an essential distinction to be remarked between those which are entirely confined to the part, and those which are connected with an inflammatory action of the vessels of the conjunctiva. When an eye has been once weakened by a severe attack of ophthalmia, the *cornea* is liable to a species of ulceration, which begins in the form of a pellucid dimple; as it enlarges, the iris first inclines forward, at last an adhesion takes place between it and the centre of ulceration; every part continues transparent, excepting at the point of adhesion, which has no resemblance to the colour of the iris, but is always of a deep black; the pupil becomes distorted, and the two sets of fibres of the iris are rendered beautifully distinct; the part occupied by the ulcer now gradually becomes convex, acquires a bluish colour, and forms a partial staphyloma. During this process there is no visible inflammation, and the gradual diminution of sight is the only intimation the patient has of its progress. But when ulceration of the cornea takes place, with active inflammation on the conjunctiva, it is then attended with an extreme sensibility to the light, and the grosser changes which accompany the action in other parts. Sometimes it originates in a hard white slough; at other times, with less change in its colour, it causes a very copious formation of pus.

I pass thus cursorily over some interesting varieties of ocular inflammation, as my object is merely to show how much a morbid sensibility to light is affected by the state of the cornea, from the general import it has in the pathology of the eye. I have now carefully marked the fact, in an immense number of cases, for nearly two years, since the observation first occurred to me, and I have found it to hold good in every instance I have met with. That the cornea should acquire some degree of morbid sensibility when affected with visible inflammation, is analagous to what takes place in cartilage and similar structures, whose vessels do not admit the circulation of red blood, excepting in a state of inflammation; but that it should become sensible to the transmission of the rays of light, is a phenomenon which we are less able to conceive. In many cases where there may appear to be an intolerance of light, without any visible affection of the cornea, as in those occasioned by extraneous bodies in the eye, it will be often found, that the uneasiness depends more on the motion of the palpebræ than on the actual admission of the light. On the other hand, the cornea may become opaque without any acute sensibility, when it depends upon a *varicose* state of the vessels of the conjunctiva.

In farther illustration of the subject, and without entering into any detail of the treatment, I may add, that the irritability arising from the affection of the cornea, by the encroachment of the *conjunctiva*, is best obviated by a well regulated application of the *argent. nitrat.* as near as possible to the margin which has become affected. The use of this remedy I first derived from Mr Peach, surgeon to the 2d battalion 52d regiment, who then employed it for the destruction of vessels in chronic cases of opacity. I have been lately informed by Mr Draper, surgeon to the 2d battalion 78th regiment, that he employed the same remedy very extensively in Egypt. It is one of much utility in all chronic cases of ophthalmia, and, in most instances, may be substituted with advantage in the room of scarification, which, in the ophthalmia propagated by infection, I have always found strong reason to reprobate.

Ophthalmia Depôt, Selsey,
20th June 1808.

P. S.—At present, when it has become an object of much importance to distinguish between an ophthalmia of a slight nature, which has been epidemical in several parts of England, and the infectious ophthalmia of Egypt, I take the opportunity of offering a few observations on a late publication by Mr Ware, entitled, "Remarks on the purulent Ophthalmy which has been *lately epidemical* in England," and which the author means should apply to the ophthalmia prevalent in the army.

Having assumed the disease to have been epidemical, Mr Ware next contends, that "it is only communicable by the contact of its discharge;" and, moreover, he is inclined to ascribe its origin to the operation of gonorrhæal matter. That a disease should be epidemical, and only received by contact, is a position so glaringly inconsistent as to make it unnecessary to take any notice of it; and that, nearly at one and the same time, and in so many distant situations, the matter of gonorrhæa should have become the exciting cause of ophthalmia, is at the least a very hardy conjecture. Mr Ware, in describing the disease as of late existence, has taken little pains to inform himself of the extent to which it continues to prevail; for, although much has been done by the measures which have been adopted in preventing its extension, it is far from being removed from the army. As it has unfortunately appeared in most of our foreign expeditions, I have had ample opportunities of witnessing the unvarying features of the disease in every situation in which it has occurred, and of comparing its identity with numerous cases received immediately from Egypt, or directly propagated from them. Mr Ware's treatment may be very applicable to those cases of gonorrhæal, and other purulent ophthalmias which he has met with, but the confounding *in name* a disease which is not epidemical with one which at this moment really is, and the publishing remarks on the symptoms and treatment of an affection, of which, it is evident, he has not seen a single case from its commencement to its termination, will, according to the credit which may attach to his opinions, add to the perplexity which already prevails on the subject of ophthalmia.

V.

Journal of the State of the Sick on board one of his Majesty's (line of battle) Ships, during a cruise to and from the West Indies, from the 18*th January to the* 18*th April* 1808. By J. F. Assistant Surgeon.

I shall begin by giving a view of the state of the sick-list for some time previous to our departure. After having been in port six months, this ship joined the Channel fleet in the beginning of November, and continued to cruise on that station till our departure for the West Indies on the 18th of January. During this time, the weather was in general remarkably good, considering the season of the year; and far from having any contagious or epidemic complaint on board, we had scarcely any which could be called prevalent, except perhaps catarrh. Some cases of this we had always on the list; but these were slight, and never appeared complicated with pneumonic affections. Slight accidents were, as is usual, numerous, but consisting chiefly of bruises of the toes and fingers, they were soon discharged from the sick-list; and, in fact, were objects for it only from this circumstance, that those who cannot do *all* their duty are fit for doing *none* on board a man of war.

But I shall give an abstract of our sick-list for the 17th January, with this remark, that this may be taken as a specimen both of the species and number of diseases for two months previous. Those marked thus * are old complaints. 7 Cases of catarrh; 5 ulcer on the leg; 3* ditto; 12 hurts and bruises (all slight, and chiefly on the extremities); 2 diarrhœa; 2 syphilis; 2 phlegmon; 1 hæpatitis; 1* incontinence of urine; 1 hæmoptysis; 1 scald; 2 anomalous:—Amounting in all to 39 ‡.

In the following account I shall take a weekly review of the sick-list, stating the diseases admitted, the number discharged, and the number remaining on the list; which review will be preceded by an account of the state of the weather for the week. This division of time into weeks is adopted merely for the sake of perspicuity, without any regard being paid to the accustomed divisions. All these statements are drawn from a journal which I kept during the cruise in the subjoined form; but as this is too prolix for publication, I hope the form I have adopted will be more manageable, and, at the same time, sufficiently perspicuous.

Form of the Journal.

Day of the month.	Thermometer.	Latitude.	Longitude.	State of the Weather.	Number discharged.	Number admitted.	Diseases admitted.	Number on the day-list.	Additional number on the night do.	Confined to bed.	Total.	Remarks.

First Week—from 17th to the 23th January.

This week comprehends the space of time from our departure from the British Channel till our arrival at Madeira, During the three first days the weather was very good, with a fine breeze; the next two were very squally, with frequent showers of rain; but, in the two last, we began to experience the serenity of a Madeira climate. The thermometer, which stood at 57° when we left Ushant, was as high as 62° upon our arrival off Madeira. The number of cases entered on our list this week was 17, being 8 of catarrh; 1 diarrhœa; 1 ophthalmia; 1 hæmorrhois; 1 rheumatism; 1 phlegmon; 4 bruises. Number discharged 22; remain on the list 34.

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‡ Ship's complement of men is 300.

N. B.—The ship's company, who are always served with fresh meat when the fleet comes into Torbay, were put upon salt provisions two days before we sailed; and, in the following reports, it is to be understood that this is the common diet, unless otherwise stated. I may here likewise observe, that, while on salt provisions, each man is allowed one pint of lemonade daily.

Second Week—from 24th January to 1st February.

On the forenoon of the 27th we again sailed from Madeira. During the two days that we lay off this island, the weather was uncommonly fine; the thermometer rising, in the forenoon, to 67½°; and, in the last day of this week and month, when we were in lat. 24° and in long. 25°, the thermometer in the shade stood at 71°. We were now in the trade-winds. Added to the list this week 11: 4 catarrh; 1 cholera; 1 diarrhœa; 1 phlegmon; 1 ophthalmia; 3 bruises of the foot. Number discharged 19; remain on the list 26.

The case of cholera occurred on the 27th, and the spasms of the muscles of the legs were strongly marked.

Third Week—from 31st January to 8th February.

Still steering southward and westward; on the 7th of February we were in lat. 17° and W. long. 40°. The weather during this week was uninterruptedly fine; the thermometer, on the first three days, stood at an average of 73°, on the four last at an average of 75°, rising on the 7th, when there was a complete calm, as high as 80°. The admissions this week were 15: 10 slight bruises; 2 catarrh; 1 diarrhœa; 2 slight ulcer. Number discharged 12; remain on the list 29. On the 31st of January we crossed the Tropic of Cancer, and, accordingly, on the 1st of February the accustomed initiatory ceremonies were performed on the ship's company by *Neptune* and his train. On this occasion it was supposed that 400 men were ducked.

N. B.—The two cases of catarrh were admitted one on the 6th and the other on the 7th.

Fourth Week—from 7th to 15th February.

Weather remarkably fine, with the interruption of a very heavy shower on the morning of the 8th. Average height of the thermometer this week was 79½°. On the 14th we were in lat. 13° long. 57°, which was the lowest degree of latitude we attained. Admissions this week 12: 8 catarrh; 1 diarrhœa; 1 rheumatism (an old case, present attack very severe); 1 ditto; 1 bruise. Number discharged 18; remain 23.

N. B.—Seven of the catarrhs were admitted on the three first days of this week. Number stated in the list is not one-half of those that applied, and that took medicine for catarrh this week.

Fifth Week—from 14th to 22d February.

On the 15th, we saw Martinique; on the 18th, anchored at St Christophers; and, on the 22d, were off St Domingo, in the island of that name. Weather was one continued cloudless day of July, thermometer standing, for the most part, at 77°, and being at no time higher, and only once as high, as 78°. Admitted this week 16, consisting wholly of slight bruises, except two attacks of old rheumatism, and one of lues venerea. This last patient had had no opportunity of being infected since the 1st of November. When admitted, he had a bubo with slight chancre. On the 18th, fresh meat: this day men employed in watering. The men, before they went on shore, took each about three ounces of brandy, in which was mixed one dram of powdered bark. The same dose was repeated when they returned at night, except to those, (and there were several) who were intoxicated from rum they had procured on shore.

N. B. Twenty-one oranges were served to each man this week. Discharged from the list, 11—Remain on it, 28.

Sixth Week—from 21st to 29th February.

This week was spent in beating up against the trade wind for the Mona-passage, and in cruising. Four first days fair: 26th, it rained all day and all night; two last variable. Thermometer, 77°; on the 25th it rose as high as 80°. Added to the list 15: 4 catarrh; 1 diarrhœa; 3 phlegmon; 7 bruises. Discharged 15; remain 28.

N. B. Two of the cases marked catarrh cannot be properly called so; one being a slight fever arising most unequivocally from suppressed perspiration; the other an old pectoral complaint.

Seventh Week—from 28th February to the 7th March.

On the 29th February, at night, we set sail with a good breeze for the Chesapeake. On the last day of this week, (6th March), we were in lat. 31°, long. 70°. But independently of calculation, we began now to perceive the effects of our northern progress, both in our sensations of cold, and in the actual state of the weather; for there were only three days of this week free from rain, and even these were raw and hazy. Thermometer on the two first days was 77°; on the third, 76°; and, then, falling regularly two degrees daily; on the 6th it stood at 68°. Admitted 18: 6 bruises; 5 phlegmon; 2 slight ulcer on the leg; 1 cynanche tonsillaris; 1 diarrhœa; 1 *pain of bowels*; 1 rheumatism. Discharged this week 16, remain 30. After the 5th of this month no lemonade was served out to the ship's company. This week also, the men were ordered to lay aside their light clothing, and to wear their winter dress.

Eighth Week—from 6th to 14th March.

On the 11th we arrived off the mouth of the bay of Chesapeake (about lat. 36°, long 76°), when we continued to cruise for some time. State of the weather during this week was as follows: first day hazy; next hazy, with frequent showers of rain; two last fair, with a good breeze, and remarkably cold. Thermometer this week exhibited considerable and sudden changes. On the 7th it stood at 65°, on 11th at 61; during the intervening days it was always as high as 64°, and sometimes higher; but on the morning of the 12th it was as low as 51°, being a change of 10° in the course of 16 hours. It continued as low all this day, and only rose one degree on the next. Added to the list this week 21: 12 diarrhœa; 1 catarrh; 3 rheumatism; 2 phlegmon; 2 bruises; 1 old case of hepatitis. Discharged 22; in the list 29.

Ninth Week—from the 13th to the 21st of March.

The whole of this week we cruized off the mouth of the Chesapeake; during which time no rain fell, though it was generally hazy, and the wind was remarkably cold. Average height of the thermometer 58°, though, to our sensations, the cold was much greater than in the English Channel, when the mercury stood at the same point. Added to the list 20: 9 diarrhœa; 1 cynanche tonsillaris; 1 phthisis; 9 bruises. Two of the diarrhœas were relapses. Number discharged this week 13; remain on the list 36. On the 17th, the ship's company were put on two-thirds allowance of provisions, and one-half of their allowance of liquor was served in grog. On 20th we left the Chesapeake.

Tenth Week—from 20th to 28th March.

During this week the weather was bad, it having rained for the greater part of four days, with several showers of hail. Average height of the thermometer 64°. Admitted 16 cases—3 of diarrhœa; 2 catarrh; 3 phlegmon; 1 hæmorrhois; 1 rheumatism, (re-admitted;) 3 bruises; 1 fractured rib; 1 ulcer leg; 1 feverish complaint. Discharged 16; remain on the list 36. On 28th we were in lat. 39°, long. 46°.

Eleventh Week—from 27th March to 4th April.

State of the weather this week variable. On the 28th it was very cold, the thermometer being as low as 57°. The three first days of April were rainy, the intervening days very agreeable weather; and the average height of the thermometer for the whole week was 67°. On the 2d of April, we were saluted by the battery of Flores, the most westerly of the Western Islands. Admissions this week 11: 5 cases of diarrhœa; 3 catarrh; 1 phlegmon; 1 bruise; 1 ophthalmia. Discharged 19; remain on the list 28.

Twelfth Week—from 3d to 11th April.

During this week, standing to the northward and eastward, we enjoyed good weather; there was no rain, and the temperature did not feel very cold, although the thermometer was falling daily. On the 11th, it stood at 60°. Ten cases added to the list this week—4 diarrhœa, (1 re-admitted;) 1 catarrh; 2 phlegmon; 1 feverish; 1 bruise; 1 rheumatism. Number discharged 12; remain on the list 26.

Thirteenth Week—from 10th to 18th April.

This week occupies the time from our arrival off Cape Clear, in Ireland, till we anchored in Cawsand Bay. There was no rain this week, the sky being generally clear, and a very cold (contrary) wind blowing. Thermometer was now as low as 54°. Admitted 20: 13 cases of diarrhœa, (2 re-admitted;) 1 rheumatism, (re-admitted;) 2 phlegmon; 3 bruises; 1 catarrh. Discharged 10; remain on the list 36.

Postscript, 10*th May,* 1808.

On the 18th of April we anchored in Cawsand Bay. The ship's company were then put on fresh provisions, and had small beer in lieu of grog and wine. For a week after we came in here, the weather was extremely disagreeable, owing to the almost continued fall of snow and rain; and, indeed, the winter seemed to continue till the first of May, when the sudden change to fine weather exhibited a most striking specimen of the inconstancy of our climate. The weather is now very good. During the whole month of April, the diarrhœal complaints continued, but gradually decreased in frequency as the month declined. The number of diarrhœas admitted since the 18th of April has been about 30. Almost the whole of these were admitted before the 28th; two only appeared on the first days of May. In short, the diarrhœa seems now completely gone. I shall only make three remarks upon this diarrhœa: 1. That the greater number of men in the ship were attacked by it, but (except in those that are mentioned) in so slight a degree, as not to interfere with the performance of their duty. 2. That in no case did unequivocal symptoms of dysentery appear; and, 3. That it was not confined to our ship alone, but extended (though I cannot say to what degree) to the other ships of the squadron.

VI.

Observations on the Yellow Fever. By D. J. H. DICKSON, M. D.

THE following observations on the non-contagious nature of the yellow fever may not be unacceptable, as the subject has given rise to much discussion, and still continues, I perceive, to excite considerable interest. On my arrival in this country, three years ago, from what I had heard and read of the frequency and mortality of this disease, I was at a loss to account for its ravages, without having recourse to the agency of contagion. Others, I believe, have very generally entertained a similar idea at first; and it is no inconsiderable proof of its fallacy, that it has been so uniformly rejected, after farther investigation and experience. I was not then aware, nor is it sufficiently known, that the danger of the climate, at first, consists in a tendency to induce a peculiar state of the system, or predisposition, so favourable to this fever, that agents, otherwise inefficient, become equal to its production: thus, though the disease most frequently proceeds from the concurrence of strong muscular action, under a vertical sun, with intemperance, yet, where the predisposition is already strongly established, it is excited by causes less powerful, dissimilar, and even obscure. Hence, under these circumstances, when a body of men, as a regiment, or ship's company, are indiscriminately exposed to the influence of such powers, the effect will also be general, and so many men will frequently be seized with the same complaint, as to give it an epidemic appearance.

After much active service, sickness is unavoidable; but I feel no small satisfaction in being able to prove, that where exposure beyond a certain degree can be escaped, health may be preserved in the West Indies, and mortality obviated to an extent heretofore unknown. I cannot at present enter into a description of the malady in question; but I am inclined to think, that its phenomena may be explained upon principles more satisfactory than that of contagion, and that a contrary opinion must either have arisen from an incomplete view of its nature, in situations where typhoid, or other contagion, actually existed, or from other adventitious and unusual causes, tending to blend and modify diseases different in type and in origin. That many cases which have been detailed as such, were not the legitimate yellow fever of the West Indies, I am warranted to infer, because I am confident, that this disease, when formed, cannot be cured by those means which have been described as having been employed with so much success; and because I have occasionally seen cases so altered, by fortuitous circumstances, as to render the diagnosis extremely difficult.

In this organic fever (if I may use the expression, where organic affection of the stomach and viscera forms the great characteristic), the apparent is by no means proportionate to the real danger; it is by experience alone, that the practitioner can be convinced of the fatality which he has to cope with. In forming a diagnosis also, he can only be guided by a combination of symptoms, and not by any one taken individually. Thus, although what has been termed the black vomit, is justly considered the most fatal and infallible criterion of yellow fever; yet a matter supposed to be similar may have been ejected, proceeding from other causes than disorganization of the stomach; as from a mixture of black bilious sordes, from other diseased secretions, from certain ingesta, and especially from a portion of grumous blood effused in consequence of injuries done to the stomach, with or without fever; and, lastly, morbid anatomy has often discovered a dark-coloured fluid in the viscera, in situations where this disease could not be suspected. I may therefore repeat, that its presence can only be ascertained from a conjunction of appearances, and that it sometimes may have been supposed to have been cured where it did not exist. I only mean to show, that misconstructions upon this subject are not improbable.

I cannot help thinking, that the difficulty of elucidating the nature of fever in general, is increased by confounding cause and effect; by not distinguishing between symptoms as the consequence of morbid actions, and those actions themselves; and again, by not attempting, with unwearied assiduity, to rise from the latter to the proximate cause or essence of the disease. Increase of the circulation, and of heat, I take to be examples of symptoms having undue influence upon the mind in judging of fever. Instead of these being considered the result of febrile changes, they are too often taken for the disease itself. No man will deny their utility to a certain extent, as indications in prognosis and in practice; but every man of experience must have found, that fever is a great deal more than heat, and a quick pulse; that, allowing he could regulate these aberrations, yet he could not thereby cure this disease; and that, in the slightest cases, he has observed their presence, while, in the worst cases, he has occasionally found them absent.

Aware of the obscurity and difficulty of such discussions, it is now foreign to my purpose to pursue the subject further; but I have long been of opinion, that the operations of the animal œconomy, both in health and disease, and particularly in that most complicated disease called fever, cannot be explained by any system which builds upon simplicity as its basis.

I differ, with regret, from some respectable authorities that have attempted to draw a parallel between the plague and yellow fever. I am probably not acquainted with all the arguments adduced; but after having been twelve months in the Levant, with unusual sources of information, I cannot trace any satisfactory analogy in support of this opinion. It is true there are symptoms referable to a change of sensation and of action in the early, and others connected with a loss of vital power in the advanced stages of fever; but these are common to fevers in general, and not peculiar to those in question. As far as I have had an opportunity of observing, the plague (though modified by variations of the attendant fever), is an unknown contagion, obeying its own laws, regular in its habits, and equally inimical to the native and to the stranger. The yellow fever, on the contrary, is generally produced by evident causes, yet requiring predisposition to give them effect. This predisposition, peculiar to the stranger, accumulates for a time, then decreases, and ultimately wears off, leaving the assimilated constitution like that of the native, free from danger, unless the most powerful causes are applied; and, after a certain time, it is to be doubted if even these can excite the disease.

Finally, neither in the course of my own observations, nor in the numerous communications that have been made to me, as physician and inspector of the naval medical department on this station, have I been able to trace the agency of contagion:—and I am, therefore, led to conclude, that while the quarantine laws are highly proper to prevent the introduction of the plague, there is no danger of the yellow fever ever visiting the British shores.

On board his Majesty's ship Belleisle,
Leeward Islands, 15*th April* 1808.

VII.

Cases of Gout in Negroes. By Mr D. QUARRIER, Surgeon of the Princess Charlotte.

WILLIAM WORKINS, ætat 55, an American negro, of a strong robust habit, complains of severe pain, attended with swelling and tension of the great toes, wrists, and fingers; skin hot and dry; much thirst; inclination to costiveness; great depression of spirits; loss of appetite; lassitude and languor; pulse 120, full and strong.

Says he was awoke on the night of the 18th instant with most excruciating pain in the ball of the great toe of the right foot, which soon shifted to the other parts. The attack was preceded by flatulency, and acid eructations.

℞ Sub-muriat. hydrarg.
Pulv. jalap. āā gr. v.
Syrup q. s. ut ft. bol. cap. stat.
cum Decoct. hord. ad libitum.

He has been using warm fomentations of vinegar and water, which are ordered to be continued, as he is much prejudiced against cold applications.

21st.—The bolus operated well; the pain in the toes is somewhat easier, but the right foot is much swelled and inflamed; the knees and hip-joints have also become affected; heat and thirst remain; pulse 110. It gives him the most exquisite pain to attempt moving either of his legs.

℞ Kali ppt. ℈i.
Suc. limon.
Aq. puræ āā ℥ss. m. ft. haust. 4tis. hor. sumend.

22d.—The swelling in the right knee has subsided; the wrists, fingers, hip-joints, and toes, continue swelled, but are not near so painful; his spirits are still depressed; heat, thirst, &c. remain.

Repetat. haust. salin. u. a.
℞ Tinct opii. gtt. xxv.
Aq. menth. pip. ℥iss. m. ft. haust. p. s. sumend.

23d.—Has had a fine refreshing sleep in the night; there is now a gentle diaphoresis on the surface; the pain in the hip-joints is much relieved; the swelling in the wrists and fingers has a little abated; the pain in the toes, feet, wrists, and left knee continues, with little or no alleviation; pulse 100; there is not near so much thirst.

Rept. haust. salin. et anodyn. u. a.

25th.—Every symptom of fever has now disappeared; the pain, swelling, and tension of the wrists, fingers, and hip-joints, are much alleviated; has slept well in the night; his spirits are more elevated.

Rept. Medicin. u. a.

28th.—The pain in the wrists, hip-joints, and knee, has entirely gone; the great toes and index finger of the right hand continue swelled and inflamed; he now begins to walk, but with much pain; he is considerably debilitated.

℞ Inf. chamæm. ℥i. 4tis. hor. sumendus.

April 10th.—He still feels a stiffness in the toes and finger, but has returned to duty in much better health than he has enjoyed for some time past.

He says his father (an African) died in New York, about 20 years ago, of the same complaint, translated to the stomach. From the minute description of his case, I cannot have the smallest doubt of his assertion. Luxury, indolence, or genius, could not have had any effect on him, as he had always been accustomed to the most laborious employment,—a coal miner.

During the last fifteen years he (Workins) has been frequently subjected to irregular gout; it commonly seizes him suddenly in the middle of the night; the balls of the great toes, wrists, fingers, hip-joints, knees, &c. are alternately affected; his spirits are always much depressed in consequence of his father's fate; indeed, he seems perfectly confident that, ultimately, it will terminate his own existence.

He joined this ship about three years since in the West Indies; during our stay there, he was seldom affected, but, since our arrival in Europe in July 1806, he has had repeated attacks. He has been steward to Captain Tobin about ten years, where he has had many opportunities of *indulging*.

There is another American negro on board who is frequently attacked in a similar manner; he generally uses cold applications, which shorten the period of the disease; he has been about ten months cook to the Captain; formerly he belonged to the fore-top, where he was seldom allowed to be idle. The fare of a British seaman is not so luxurious that it could have been any great source of excitement; but he has certainly been much addicted to the use of ardent spirits. I cannot trace any hereditary taint, as he has never known his father.

Off Ireland, 20th March 1808.

VIII.

Biographical Sketch of Dr DARWIN.

ERASMUS DARWIN, M. D. F. R. S. was born at Elston, near Newark, in Nottinghamshire, on the 12th of December 1731, of respectable parents. He was educated at Chesterfield school, and at St John's College, Cambridge, where he resided twelve terms, with the exception of one which he spent in London in attending Dr Hunter's course of anatomical lectures. He afterwards went to Edinburgh to study physic, and, on his return, took his degree of M. B. at Cambridge. He first settled at Nottingham, but got no practice; he then removed to Litchfield, where he was more successful; and, in the latter part of his life, he resided at Derby, and died there on the 18th of May 1802, in the seventy-first year of his age. Dr Darwin was twice married, and brought up two of his sons to the profession of physic. *Charles*, the eldest, distinguished himself at Edinburgh by his scientific and literary acquirements, and was cut off by a fever in the bloom of life; his other son, *Robert*, is in high estimation as a physician at Shrewsbury.

Dr Darwin was remarkable for great benevolence and playfulness of disposition; his conversation abounded with sallies of wit and humour; he was fond of mechanical contrivances, and had all the characteristics of genius about him, without any external marks of it. In his appearance he was large and heavy; his countenance was dull, and void of animation; and he had an impediment in his speech, which rendered his enunciation difficult to be understood. He was a man of strong natural parts and refined taste, master of a nervous and fascinating style. To great acuteness of observation, he joined a singular degree of ingenuity in the combination of particular facts; and, with such powers of mind applied to a variety of subjects, he could not fail to command a considerable share of public attention. He was fortunate in the outset of his practice at

Litchfield, and soon rose into notice; he attended very assiduously to his profession; and, satisfied with the advantages of physical fame, he wisely abstained from poetry during the first years of his life. He was fond of botany, and the study of natural history; and, at Litchfield, he instituted a botanical society who translated Linnæus's Systema Vegetabilium, and published it in their name. His two poems, "The Botanic Garden" and "The Temple of Nature," and his large work on gardening called "*Phytologia*," show how much the vegetable kingdom occupied his attention and his powers of imagination. The first effect produced by the publication of the *Botanic Garden* was very remarkable,—the genius of the author burst forth in all its splendour in that much admired work,—the novelty of his plan, the boldness and originality of his poetical as well as of his philosophical speculations, the harmony of his versification, the picturesque beauty of his descriptions, and the command displayed over the richest sources of nature and art that admit of poetical embellishment, attracted the approbation of all classes of readers. "The Temple of Nature" was published after the death of its author. It is inferior to his former poem, though evidently formed on the same model. Both of them are of the didactic class, and they seem to be the poetical part of his general system of philosophical speculations; for there is the same spirit throughout all his works, the same desire of detecting causation; and he has only thrown into the form of verse such parts as were most susceptible of poetical illustration. We shall not pretend to estimate the merits of Dr Darwin as a poet, but consider him in his character as a physician and philosopher.

About the year 1771, soon after the decease of his first wife, he began his great work "The Zoonomia, or Laws of Organic Life," which was published in two volumes quarto in 1794, after being kept twenty-three years under revision. The purport of this work is an attempt to reduce the facts belonging to animal life into classes, orders, genera, and species; and, by comparing them with each other, to unravel the theory of diseases. Dr Darwin was a great admirer of the works of Linnæus, and he seems to have been so much struck by the lucid order of the Linnæan classification, that he was ambitious of bringing about a revolution in medicine like that which the celebrated Swede had so happily effected in the other branches of natural history. But, unfortunately, diseases are not like plants; they are not so uniform in their appearance, nor are the external characters so distinctly marked; hence it was reasonable to expect, that all the objections urged against systematic arrangement, would be applicable to an artificial classification of diseases, in their full force.

And *artificial* that method must be called, which classes diseases according to their proximate causes; for, as long as these remain so obscure, there can be no natural arrangement without involving an hypothesis in almost every instance. Dr Darwin has been deceived, by thinking that he has explained the proximate causes of diseases, when he has only stated their phenomena. He supposes all the phenomena of life, both in health and disease, to consist in the motions of a subtle fluid, which he denominates *sensorial power*, or *spirit of animation*, and the motions which these excite in the fibrous parts of the system. This general principle, adopted in the Zoonomia, is the same as what is found in almost every systematic writer; it is synonimous with the *anima* of the vitalists; and it differs only in its more extended generalization from the *excitability* of John Brown. The nosology founded upon it is inconsistent with the fundamental principles of the theory, by which one faculty of the sensorium cannot increase or decrease, without a corresponding increase or decrease of the others; and, in the catalogue of diseases, a variety of actions are set down, which, in the ordinary acceptation of the word *disease*, do not admit of being called morbid. Such, for example, as *cicatrix vulnerum*, *ruminatio*, *rubor à calore*, *sympathia somnus*, *vita ovi*, and the like. The author of this vast and comprehensive plan has supposed changes to succeed each other in a series of phenomena, without thinking how many effects may intervene; and he ascribes to one cause, to some modification of the animal spirit, that influence which, in many instances, can be shown to result from the combination of several different actions. His nomenclature does not answer the great purposes to which it ought to be subservient; it neither facilitates the business of instruction, nor assists in the discovery of new truths, because it supposes the most obscure to be already explained, and supplies a new term for real knowledge. Dr Darwin has not merely added to the vocabulary, but his readers are obliged to unlearn a former one, because he employs old terms in a new sense; yet he does not always adhere to his own definitions, whenever the common meaning of the term will suit his purpose better.

Boileau says to the poets of his time,

> "Aimez donc la raison, que toujours vos écrits
> Empruntent d'elle seule, et leur lustre et leur prix."

If this sentiment be just with regard to poetry, how much more so when applied to physicians and philosophers? But reason does not urge us to walk always in the leading-strings of authority; without some bold experiments, and some adventurous speculators, all progress would be impossible. Yet there are limits to the inquiries of philosophy, and to the powers of an individual, and the world may lose a great deal by impatience at grasping at too much. Dr Darwin was not equal to the great task which he undertook; perhaps the time is not come for a complete theory of animal life; he has explained some parts with great ingenuity, but the absurdity of some of his speculations has thrown the shade of romance upon the whole. The practical parts of the Zoonomia are excellent. The penetrating and observing mind of the author is displayed in the collection of a variety of facts, and in the bold conclusions which he has drawn from them; and the suggestions of his vigorous intellect and experience will be sought for and prized, whilst "the looser analogies which dress out the imagery of poetry" will be soon neglected and forgotten.

THE INQUIRER. No. XV.

What was the cause of the Sweating-sickness?

> ————"Sua cuique domus funesta videtur:
> Et quia causa latet, locus est in crimine notus."
> OVID. METAM. Lib. VII.

EVERY attempt to investigate the nature and causes of an epidemical disease, which is attended with remarkable symptoms, although unsuccessful, is still meritorious. It was, therefore, pleasing to find that Dr Willan, in his learned publication on cutaneous diseases, has thrown out a suggestion respecting the origin of the sweating-sickness, the whole history of which forms one of the most curious articles in the annals of medicine. Dr Caius has given an elaborate history of this pestilential disease, and he called it the *Ephemera Britannica*. It first appeared in the army of the Earl of Richmond, afterwards King Henry VII., upon his landing at Milford Haven in 1485; and it soon spread to London, where it raged from the beginning of August to the end of October. It appeared in England four times afterwards, at unequal intervals; and although Sennertus says, that it prevailed in this country for forty years together, yet contemporary physicians and historians have described the periods of its cessation; and it is well known to have appeared only in the following years, viz. 1485, 1506, 1517, 1528, and, lastly, in

1551.

1551. The summer season was always the period of its commencement, and it continued rife from three to five months. Its attack was extremely sudden. It began generally with an affection of some particular part, occasioning a sense of a hot vapour running through the limb. To this succeeded excessive internal heat, unquenchable thirst, and most profuse sweating. Anxiety, restlessness, sickness, violent pain of the head, delirium, and excessive drowsiness attended its progress; and frequently, in a short time after the eruption of the sweat, the patient was carried off. The violence of the attack was over in fifteen hours, yet the patient was not in a state of security till the expiration of twenty-four hours, and hence the disease has been properly denominated an *ephemera*. The persons most liable to the disease were those in high health, of middle age, and of better rank and condition: children, poor and old people were less subject to its influence. The numbers carried off by it were very great: in the town of Shrewsbury, where Caius resided, 960 died within a few days; yet, if this statement be true, the lower classes of society could not be wholly exempt. What is most to be regretted in the history of this disease, is the little information to be collected from different writers with respect to the cause of it. The most general opinion is, that it arose from some peculiar state of the atmosphere, and was propagated by contagion, but no writer has distinctly pointed out the connection of this, or of any other epidemic, with a specific condition of the air, nor detected any peculiarity in the circumstances immediately relating to animal life.

" The sweating-sickness (says Dr Willan) which occurred more than once in England at the beginning of the sixteenth century, was perhaps owing to some disease or depravation in wheat, or to some noxious vegetable growing with it in particular situations *." This idea seems to have been suggested by some analogy to be traced between the fatal epidemic called feu sacré, feu St Antoine, mal des ardents, &c. which is supposed to have originated from eating rye damaged by a parasitic plant, constituting the disorder in corn termed by the French *ergot*. Whatever effect such food might have in producing the disease attributed to it, I must confess that I have no sort of reliance upon the hypothesis of damaged corn being the cause of the sweating-sickness, and I shall state the following objections:

1. The symptoms produced by eating bread made of damaged corn are essentially different from those of the sweating-sickness,

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* Willan on Cutaneous Diseases, Part IV. p. 449, note.

being pain, swelling, and mortification of the extremities, without inflammation and without fever, but frequently attended with spasms and convulsions [*].

2. There is a disease termed *raphania*, from its supposed origin from eating corn mixed with the *raphanum raphanistrum*, which also differs materially in its symptoms from the sweating-sickness [†].

3. There is no evidence of the corn being damaged, either by bad seasons, or by the intermixture of noxious vegetables, in those years in which the sweating-sickness appeared. *Stow* [‡] notices the occurrence of the disease in the years above-mentioned; but he says nothing about a scarcity of corn at those times, which would have been the case if the wheat was damaged. For as in seasons when corn is injured by blight or mildew it is scarce and dear; so in plentiful harvests the low price is the most authentic proof of its goodness.—*Holinshed* [||] mentions the sickness, but gives no account of any scarcity in the years when it occurred; yet there is a scarcity of corn particularly noticed by him, in seasons when the disease did not prevail. In 1486, the year after the first appearance of the disease, wheat was very dear; and in 1517, corn was in great abundance, though the sweating plague, as it was sometimes called, made great havoc in London, and a malignant murrain raged among cattle. In looking over the price of corn for 600 years previous to the beginning of the eighteenth century, it will be found, that the greatest dearth was experienced in those years, in which the sweating sickness, and other epidemics were not heard of; and, at the period of its greatest malignity, wheat and rye were comparatively cheap [§].

4. Some distinguished physicians have doubted whether damaged rye, *secale cornutum*, *mutterkorn* of the Germans, be ever productive of any disorder. Pallas, Model, Schlegel, Parmentier, and Salerne, have supported that opinion, and some of them are said to have eaten bread made of ergoted rye-flour, without suffering any inconvenience; and different kinds of animals have devoured the corn with impunity [¶]. Symptoms resembling those

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[*] Vide Tissot's Letter to Dr Baker, Phil. Trans. Vol. lv.

[†] Amænit. Academ. tom. vi.—Handbuch der Toxicologie, von J. Frank.

[‡] *Stow*—Annales of England, (edit. 1. 631), pages 471, 485, 507, 605.

[||] *Holinshed*—Chronicles, Vol. iii. (edit. 1577), p. 1426, 1460, &c.

[§] Vide Chronicon. Preciosum, 1707.

[¶] Vide Memoires de la Societé Royale de Medecine, 1777. Vogel. Acad. prælectiones de cognoscend. et curand. morbis, p. 397.

attributed to ergoted rye, have appeared where no rye was eaten, and no damaged flour could be detected *.

5. All the instances recorded of the ill effects of bad corn, are alleged to have been caused by damaged rye or barley, none by wheat; therefore, the northern counties, and Wales and Scotland, were more likely to be affected by the sweating-sickness, if it proceeded from such a cause; but this was not the fact:—and again, the lower class of people would suffer most, in consequence of the bad qualities of the bread, which did not happen in the sweating sickness?

6. All the vegetable poisons, whose seed can ever be mixed with corn, such as *lolium temulentum*, *bromus multiflorus*, *agrostemma*, *raphanum raphanistrum*, produce effects like a large dose of opium—differing in every circumstance from fever—they are strongly sedative or narcotic, whenever swallowed in sufficient quantity, to excite any morbid action in the system. Experience has shewn, that the pestilential fevers, which have at different times, (and more frequently in former times than at present), afflicted mankind, although alike in their principal symptoms, yet differ so much in their mode of attack, and in the train of morbid associations, that they seem, as it were, to constitute so many different diseases; and since words are admitted for explanations, and diseases are classed according to a particular symptom, or to some affection of a particular part, without attending to the whole combination of symptoms, epidemics will have different names at different times; and what one writer calls the plague, another calls the dysentery, and a third may style the sweating-sickness.

Typhus fever was most widely diffused through the metropolis, during, and for a short time subsequent to the years of scarcity, 1797, 1799, &c. since which period, the produce of the seasons has been abundant, and London has been remarkably free from contagious fever †. Dr Bateman is too logical and cautious a reasoner, to infer from this, that typhus fever is produced by scarcity of corn; he only states the fact, in his valuable reports of the diseases of a very extensive district; and the connection in point of time between two such great evils, pestilence and famine, is well worthy of being recorded. Little connection, however, appears to exist between them as cause and effects in the case of the sweating-sickness; for the disease broke out among the foreign levies of the Earl of

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* Phil. Transact. 1762.—Dr Wollaston's cases.

† Quarterly Report of the Carey-Street Dispensary, Edin. Medical and Surgical Journal, No. xv.

Richmond, and was probably generated amongst them in the dirty and crowded transports on board of which they were embarked; and it is said to have chiefly affected the higher classes of society, which may be construed, that it did not spare any persons who came within reach of the contagious effluvia.

The method of cure adopted, latterly with considerable success, seems to warrant the conclusion of its being a fever, not a disease produced by any vegetable poison; the practice was, *to promote free sweating, and to maintain it with proper support as long as the disorder lasted.* Why this singular variety of fever should be renewed so many times at irregular intervals—why it should prevail most in England, and why it should at length entirely cease, are questions extremely difficult, perhaps impossible to be answered. Sydenham remarks, that it is not usual for the plague to attack Great Britain oftener than once in about forty years, and though he attributes something to a disposition in the air which favours its growth and increase, yet he does not consider any state of the atmosphere alone capable of producing it. If we observe with attention the course of the plague, small-pox, measles, and other contagious diseases, we perceive they all have a tendency to rage with great violence in particular places, after certain intervals. People become negligent of the means of preventing infection, until their attention be awakened by the breaking out of the disease in their neighbourhood; a general inoculation, or a general cleaning and white-washing then takes place, tranquillity of mind follows, soon degenerating into a forgetfulness of what has once happened, and indifference to the means of prevention. A new series of calamities is necessary to excite their attention again, and no wonder when the remedy is applied in a number of places at the same time, that those places should remain free from the disease for nearly the same period, and when the contagion is brought by accident, or is generated in one place, that becomes a signal for others liable to the same fate. This, at least, seems to be the case with typhus fever and small pox, and if the vaccine inoculation be not strenuously urged, a vast crop of patients will spring up in a few years, liable to be destroyed by that dreadful plague. The *Fever-Institution* has done prodigious benefit by removing the infected patients, and destroying the contagion in the crowded courts and lanes of the metropolis. It is to the active benevolence of that admirable establishment we may attribute a ten year's peace, free from the alarm and havoc of typhus fever in London, and the more cleanly and commodious houses of the present population of the country towns may account for their remaining free from the ravages of contagious fever.

The appearance of an epidemic has been marked in general by some great change, or some important event in the atmosphere, in the earth, or among its inhabitants. An army marching from one country to another, an earthquake, the appearance of a comet, an eclipse of the sun, excessive rain or extreme heat, have severally in turn been accused as the cause of the malady. Corn is the next general cause which could be brought in for a share of the accusation, and thus an accidental circumstance has often been converted into a necessary cause. Bad food, and the want of any food, whether animal or vegetable, undoubtedly may give rise to several disorders. Ramazini informs us, that persons were affected by eating the flesh of oxen which had the murrain * ; and an edict was issued at Venice in 1599, forbidding any one, under pain of death, to sell or distribute any beef, butter, milk, or cheese of any sort, under any pretence. The inhabitants of Venice and Padua have often appealed against the butchers for selling bad meat, to which they impute fevers, dysentery, and all sorts of complaints ; and there seems to be sufficient proof of diseases among cattle being productive of epidemical disorders among men*. Almost all the epizootic diseases which have, at different times, committed such devastation among the cattle in Europe, may be traced to Hungary as their source, and, in that country, the causes of contagious diseases are most abundant.—Vast herds used to be driven together into Italy and Germany; all kinds of animals were crowded into the same stable, or pasture, and cleanliness wholly neglected. This affords an additional argument in favour of the hypothesis of animal effluvia being the cause of those violent diseases which we find described by all the poets and historians and chronicles of ancient times. The discovery of any injury done to the corn, might be so readily made, and indeed is so obvious, that it could hardly be overlooked ; and, notwithstanding some facts may be adduced in favour of Dr Willan's opinion, yet there are many against it : but supposing them to be equally balanced, the wisest part is certainly to adopt that which will best accord with the phenomena.

CRITICAL

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* Ramazini, de Contagiosâ Epidemiâ boum. 1711. p. 459.

† Paulet, Recherches Historiques et Physiques sur les Maladies Epizootiques, 2 tom. 1775.

PART II.

CRITICAL ANALYSIS.

I.

Histoire Naturelle de la Femme, suivie d'un Traitè d'Hygiène Appliquée à son Regime Physique et Moral, aux differentes periodes de la Vie. Par JACQ. L. MOREAU (DE LA SARTHE), Professeur d'Hygiène à l'Athenée de Paris, &c. &c. Avec ii Planches, graviès en taille douce. 8vo. pp. 1203. A Paris, 1803.

THESE volumes have attracted our notice, both from the extent and variety of the information which they contain, and the satisfactory philosophy which they, in some measure, establish, relative to the female sex. The charms, the beauty, the accomplishments of women, have always been favourite themes of praise ; but the fundamental principles of her character have seldom excited the serious meditation of the learned, and science has scarcely yet condescended to lend its aid in support of the claims of that part of our species, which presents, in the history of its physical and moral constitution, a continued series of interesting and important revolutions. The anatomist confines himself to some hasty remarks on the peculiarities of her bodily conformation, and the philosopher, even when contemplating this part of Nature's works, seems to relinquish the usual austerity of his character, forgets the sober dictates of reason and reflection, and wantons in the impassioned language of sentiment and love.

Our author labours to remove these causes of reproach ; examines woman in all her forms of existence ; bestows great attention on the details connected with her natural and philosophical history ; and applies the results of physical remark, in exploring the developement and peculiarities of her moral and intellectual faculties. In executing this plan, he has not rigidly adhered to the severity of scientific investigation, but has diversified his subject by occasional extracts from the works of those eloquent writers who have celebrated, in poetic strains, the elegance and beauty of the female form. These embellishments he has embodied with his grave discussions, to give his work a popular cast; to suit it to the taste of the general reader; and to render it a production capable of exciting the attention and enlightening the minds of the fair, by combining important instruction with all the charms and graces of composition. It is certainly a laudable intention to smooth the thorny path of science, and to diffuse its influence by accommodating its results to the capacities of the different classes of society. We are doubtful, however, how far the author's object has been attained in the present instance. A work which rests professedly on the basis of anatomy and physiology, must be unintelligible to all who are not acquainted with these branches of knowledge, while the scientific reader may perhaps turn, with some degree of reluctance, from an interesting train of speculation, to dwell even on the most brilliant displays of taste and fancy. On these grounds, we rather think that the author has attempted to accomplish purposes which are incompatible with each other. If he intended his work purely for popular use, much of his learning is misplaced, while, as a production addressed to men of science, many of his ornaments might have been spared. The latter, indeed, he has generally selected with uncommon judgment; while the powers of composition, which he himself has displayed, argue very favourably for his literary acquirements.

Our attention shall be chiefly occupied with the philosophical part of the work, which contains a curious collection of important facts, and many ingenious observations, which are equally interesting to the moralist and the physician. In unfolding, however, the author's opinions, we have been very much perplexed by the tedious minuteness of his classification, and the multiplicity of the divisions under which he has distributed his materials. This has obliged him to have recourse to frequent repetition, and destroyed much of the unity and effect which would have resulted from a more comprehensive and scientific arrangement.

In the First Chapter, the author examines the characters which distinguish woman from the females of the other mammalia.—This discussion, of course, involves those disputes which have been agitated concerning the situation which should be assigned to the human race in our classifications of the objects of natural history. Whether, it has been argued, should the beauty and perfection of the organization of man, secure him a place distinct from all other animals? or, should he be ranked with the orangoutang, that boasted associate of our species? If the subjects of comparison are to be chosen from among the frightful inhabitants of Van Diemen's land, or the squalid hordes of Caffraria, the line of distinction is certainly not very evident, and the accomplishments of the jocko, at first sight, seem not much inferior to the acquirements of the untutored savage. But even in these examples, the similarity consists only in superficial coincidences. More profound anatomical investigation points out strong marked differences between the structure of man and that of all other animals. These differences the author divides into two classes: 1st, Those common to both sexes; 2d, Those peculiar to the female. Of the first description are, the junction of the head with the trunk, the situation of the occipital hole, the direction of the orbits and that of the nostrils, the articulation of the foot with the ancle, the size of the facial angle, the form of the cranium, the structure of the hands, &c. These are chiefly taken from the skeleton; many more might be added by referring to the situation and action of the different muscles.

The peculiarities of the structure of the human female are, the direction of the vagina, the presence of the hymen, and the conformation of the pelvis. The author's commentary on the first of these characters forms a theory of sexual gratification, which savours somewhat of philosophical licentiousness.

The characters peculiar to man and woman in their more advanced stages, are scarcely perceptible during the first years of our life. The same delicate structure of organs, the same sound of the voice, and a similarity of tastes and amusements, are common both to the boy and the girl. While in that state, we contemplate them without feeling any particular emotion, except that which weakness, when conjoined with innocence, generally inspires. The properties belonging to each are not fully evolved till the age of puberty. After that interesting epoch, man and woman are powerfully attracted towards each other, and united by innumerable sympathies, giving a new form to an existence which, till that time, was almost personal and solitary. It is at this season, accordingly, that we must contrast the characters of the sexes, and search for those varieties of structure and function which proclaim the nature, and determine the attributes and attainments of each.

Women, in general, are smaller in stature than men. The proportions of the dimensions of the different parts of the body vary also in the two sexes; as is exemplified in the shortness of the lower extremities, the length of the neck, and the comparatively large space occupied by the haunches and lumbar region in women. The last is a feature in the female figure which possesses singular charms in the eye of the philosophical observer, as it indicates, by a happy organization, a fitness for the performance of some of her most important functions. In women, the thorax is flatter and deeper, and the belly more prominent than in men; but the bust is smaller, more plump and rounded, and distinguished by the elegant form of the bosom. The shape also of the legs and arms, their smoothness and polish, and the superior delicacy and fineness of the hands and feet, are all characteristic of the female shape.

The author, in prosecution of the anatomical and physiological parallel which he institutes between the two sexes, analyses the skeleton, and illustrates his remarks by a small engraving, copied chiefly from the design of Sœmmering. His method of treating this subject is extremely interesting, and successfully illustrates the true proportions of the female figure, and the influence of its mechanism on her habits, her labours, and her exertions. He next examines the muscles, which are, in general, smaller and more slender in women than in men, and do not communicate, by their action, those prominences and depressions which are so visible in the latter. This, indeed, in some measure, arises from their bodies being more plentifully supplied with that cellular tissue which smooths their external surface, and gives it roundness and elasticity. These facts are admirably exemplified by a reference to the state of the female countenance. During the season of youth, her visage is marked by no particular traces; the rapid play of its different parts beautifully announces the successive emotions of her mind. The muscles, thus constantly varying their action, acquire no particular habit, and do not impress the countenance with any permanent expression. On this account, the physiognomical character of woman is never properly decided, till time has blunted the acuteness of her feelings, and rendered her sentiments less ephemeral and evanescent. At this period, the cellular substance begins to be absorbed, and the muscles, of course, become more prominent; the face loses part of its beauty and freshness, but it gains much in other respects: the influence of a benevolent and intelligent mind conveying a vivacity and sweetness to her countenance which renders us almost insensible to the gradual decay of her personal charms.

After his remarks on the muscles, the author proceeds to examine *sensibility*, as it occurs in man and woman. This we hold to be one of the most important divisions of the work; as under it may be comprehended almost all that relates to the philosophy of the human race. It is the most brilliant attribute of animal life; by its means our existence is carried beyond the narrow limits of self; we become acquainted with external objects, and lay the foundation of all the moral and intellectual improvements which distinguish civilized man. Although the knife of the anatomist has not been able to detect any very striking differences in the organs of perception of man and woman, it is possible, nevertheless, to point out varieties in the nature of their *affectibility* *, sufficient, probably, to account for the diversity of character and attainments which the sexes exhibit.

Before we proceed further in examining the comparative physiology of the sexes, it will be proper to make a few observations on the theory which has led the author to adopt a particular classification of the different functions of animals. He follows the new tenets of the Parisian school. The phenomena of life he ranges under two principal divisions. To the first he gives the name of *La vie de relation*; to the second that of *La vie de nutrition.* The organization which enables man to feel the impressions which are made upon his senses, and to execute, by means of his organs of loco-motion, the volitions which these impressions excite, belong to the first class.—It we have already slightly noticed. To the second pertain all those functions which are necessary for the growth and support of organized beings, that succession and uninterrupted series of assimilations and decompositions, which is common to all animals, and also to plants.

Here we discover nothing but the animal and organic life of Bichât, though the author thinks that he has changed and improved the aspect of that doctrine, by altering the terms in which it was announced, and making some variations in the subordinate arrangements *. We are inclined to disapprove of the language of both of these writers, but the merits of the theory should be separated entirely from this objection.

The animal life of Bichât comprehends the apparatus of locomotion, the voice, the external and internal senses, and the conductors which establish a communication between the latter and the organs which execute our volitions. To the first belong the bones and muscles ; to the second, the larynx ; to the third, the eye, the ear, &c. ; to the fourth, the brain ; and, to the last, the cerebral nerves, &c. † Under the *Vie Nutritive*, or organic life, we find digestion, respiration, absorption, and secretion. These functions relate purely to the individual. The organs of generation fall under neither of these divisions ; they form another class, as they refer to the species, and are only active during a certain portion of our life.

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* The author has the following note on this word :—" Faculté de recevoir une affection ou une impression. Les physiologistes ont fait ce mot, non par la manie de néologisme mais par nécessité." Vol. i. p. 113.

† Vol. i. p. 131. note.

‡ Vid. Anat. Descriptive Discours Preliminaire, p. 17.

Although this is the route which our author chiefly follows, yet, as he imagines that he has made considerable additions to this part of the philosophy of our species, it is right that his pretensions should be made known. Instead of viewing the voice as an appendage of the animal life, or life of relation, as he terms it, he considers it merely as a sequel to the last act of respiration, and consequently classes it under his *Vie de Nutrition.* On this subject he expresses himself as follows:

> " Ainsi dans la physiologie comparée, nous croyons avoir perfectionné l'analyse des phenomènes de l'organization: 1°, en etablissant une distinction entre les fonctions speciales et les fonctions generales de la vie de nutrition: 2°, en considerant l'action de l'appareil sanguin comme une seule fonction qui comprend, 1°, l'action des veines et de leur cœur; 2°, la respiration; 3°, l'action des artères et du cœur aortique. Nous avons, en outre, rangé sous un même titre les phenomènes de la voix et ceux de la respiration, en demontrant ainsi, que les physiologistes modernes qui les ont séparés dans leur classification, ne laissent plus appercevoir comment un des plus beaux phenomènes de la vie, n'est qu'un accident, qu'un épisode d'un fonction plus essentielle, dont le dernier acte, *l'expiration* d'un air dépouillé de ses parties nutritives, suffit pour exprimer toutes les formes du sentiment et toutes les nuances de la pensée *."

We scarcely think that the author is altogether entitled to the praise which he assumes to himself in the first part of the paragraph which we have just quoted. But we are still more disposed to dispute with him the soundness of the doctrine which the last part of it contains. By his organs of voice, man communicates to others his desires, his fears, his pleasures, and his pains. What power, therefore, presides over this wonderful instrument, stretches or contracts its different parts, and enables it, by the variety of its movements, to give utterance to all the forms of sentiment, and all the shades of thought? These phenomena are not accidental, are not subsidiary to the last act of respiration; we should, when the voice is the object of attention, reverse the proposition; expiration being rendered entirely subservient to the performance of an important function, which is under the dominion of the will, and decidedly belongs to the life of relation. Thus it has been placed by Bichât, and there, unquestionably, it ought to have remained. Were it otherwise—were the author's views correct, the human throat would never cease to yield hideous music; the sounds would commence with our first breath, and we should croak without intermission till the end of our days.

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* Discours Preliminaire, p. 7.

All our attempts to reduce the phenomena of nature within the narrow limits of our artificial systems must necessarily be imperfect. That one, however, is undoubtedly to be preferred which serves best to guide us in our researches, and is least at variance with the knowledge which we have acquired. This praise, we think, is fully due to the labours of Bichât; but he is not to be classed with the common herd of system-builders. The grandeur and philosophical simplicity of most of his views, we doubt not, will stand the test of ages, and will, hereafter, be recorded as forming a most important æra in the history of physiological science.

It is unnecessary here to follow the author through his remarks relative to the *general* and *special* functions of the life of nutrition. We may observe, however, in general, that women eat less, and digest their food more rapidly than men. The extraordinary examples of enormous gluttony occur chiefly among the latter, while the former afford no less wonderful instances of prolonged abstinence. They also differ from men in the choice of their aliments; and certain states of their genital organs are well known to excite in them tastes and desires of the most unaccountable nature. Their absorbent system, it is likewise affirmed, is more perfectly evolved; this circumstance, the author thinks, accounts for their being more frequently affected with scrofula, phthisis, &c. than men. They are, it is said too, more liable to hæmorrhagies, which is ascribed to their bodies containing a larger proportion of blood; while, from the superior transparency of their skin, the vessels are less concealed. Hence proceeds that delicate blush, and those azure tints which delight the eye, and add all the charms of variety to the harmony of form and the beauty of proportion.

The author next proceeds to treat of generation, and compares the organs of reproduction of the sexes relative to their *composition* *, and to their influence on the other parts of the body. There are few subjects connected with the history of the female sex more interesting than the latter; the uterine system involving in its extensive sympathies all the parts of her moral and physical constitution. Not properly exercised, or not enjoying the functions for which it was intended by nature; the body languishes, the countenance loses its fire and animation, and the intellect becomes torpid. At other times, the organs of generation, highly excited, modify, govern and derange the system in a different manner. The intolerable pruriency of ungratified appetite embraces her whole frame, gives a cast to her wild imagination, and regulates all her actions. The disorder proceeding from physical irritation, when thus reinforced by the workings of her moral part, knows no limits, bursts through all the boundaries of propriety and decorum, and terminates in the furor of an erotic delirium. The disease seldom proceeds so far except in women who have indulged in Sapphic and Lesbian habits, or who, doomed to a painful celibacy, have been addicted to the unnatural and barren enjoyments of the cloister.

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* Vol. i. p. 184.

We agree with the author in thinking that marriage, after the age of puberty, is the natural state for both sexes. But, unfortunately for human happiness and human virtue, the institutions of civilized society, do not, in this instance, accord with the deductions of the physiologist, and they seem to be perfectly contradicted by the theory of population. This is an unfortunate dilemma, and a source of incalculable misery to man, and affords perhaps the only instance in which the dictates of what is held to be sound and enlightened morality are inconsistent with the vigorous and healthy action of our corporeal functions.

As an addition to this chapter, the author subjoins some remarks on hermaphrodism. It seems now sufficiently well ascertained, that no such state can exist in the human race; those who present monstrous appearances in the structure of their organs of generation, instead of enjoying the functions peculiar to each sex, being bereft of the powers of either, and reduced by nature to a dismal neutrality This part of the work is illustrated by two engravings, in which are delineated the external and internal parts of such monsters; but they differ not in any essential points from others which have already been before the public.

The third chapter is dedicated to the analysis of beauty, a subject certainly highly interesting in itself, and which is thought to form a proper sequel to the previous discussions concerning the comparative anatomy and physiology of man and woman *. The variety and inconstancy of tastes and sentiments, relative to the characters and attributes of beauty, has rendered it a question with many, whether there are any permanent principles which guide mens opinions on this subject. Our author is not one of those who entertain any hesitation as to this matter. He talks boldly of those combinations of forms, which he thinks are *essentially* beautiful; and, with some degree of hardihood, refers the opinions of all who reason differently from himself, to ignorance or prejudice, erroneous association, or to a morbid state of the organ of intellect *. We cannot follow him through all his illustrations of those topics. Indeed the question is altogether of such an abstract nature that it cannot well be discussed in this place.

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* Vol. i. p. 243.

This chapter is closed by an article entitled *Patrie de la beaute.* It comprehends some general observations on the effect of climate, situation, &c. on our physical and moral constitutions, and on the countries most favourable to the beauty and perfection of our species. Man was born to live in all climates, but it is only in temperate regions that his powers of body and mind appear in perfection. These regions, according to Buffon, are situated between the 40 and 65 degrees of north latitude. But the districts most congenial to female beauty are rather more limited. Circassia, Georgia, Mingrelia, and the countries bordering on Caucasus, being those where the charms of women shine with unrivalled splendour.

The author commences the second section of his work by examining the ages of women. All organized bodies, in running the course prescribed to them by nature, present, in the different periods of their existence, certain changes or revolutions more or less remarkable, according to their structure and functions. Some animals exhibit, during the short continuance of their lives, a succession of the most wonderful and rapid metamorphoses. Others prolong the seasons of their strength and vigour, grow old with the lapse of ages, and, to the superficial observer, seem to hold one uniform and uninterrupted course from their infancy till their final dissolution. The grand divisions in the life of woman, as pointed out by the author, comprehend the periods from birth till puberty, from puberty till the age of 25 or 30, from the last mentioned time till 45, or when the menstrual flux ceases, and, finally, from 45 till death. The ages now specified, of course, apply to females in temperate regions, as in polar and tropical climates the seasons at which the revolutions take place, which are the foundations of this arrangement, are very considerably varied. After commenting at some length on each of the ages which we have noticed, the author proceeds to examine the temperament of which the female constitution is most susceptible.

The study of the temperaments has been too much neglected in modern institutions. Freed from the barbarous and hypothetical jargon with which it was formerly clogged, it forms a most interesting and important branch of the science of man. It is not now to be confined to the doctrine of the *humours*, and their various combinations. Individual character is its object, and it embraces the whole of the distinction by which that character is marked. Its indications are useful, not only as announcing predispositions to particular diseases, but as proclaiming the nature and objects of many of our moral affections. But, in giving due regard to these indications, we should endeavour to separate what depends on original conformation from the more variable and accidental appearances which are produced by habit or education. The author is perfectly aware of the importance of these views, though we do not think that they have been sufficiently attended to in his attempts to classify the temperaments. Without entering minutely upon this subject, we subjoin his remarks on what he terms *le temperament sanguin arteriel.*

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* Vol. i. p. 243.

" Dans ce temperament, le systeme lymphatique et l'appareil vasculaire rouge sont dans un sorte d'equilibre : mais la poitrine est plus large, et les poumons plus volumineux. La circulation est beaucoup plus rapide ; la predominance arterielle se révéle par plusieurs phenoménes ; et par un effet de ce meme ascendant, les excitans interieurs etant plus energiques, et plus souvent renouvelés, le jeu vital est tres-facile ; la santé se trouve rarement alterée, l'intelligence a plus de promptitude, que de profondeur et d'etendue ; les maladies, les gouts, les appetites, les penchans, et les passions, sont egalment ephémères. L'organization est disposée alors a se monter à tous les tons, à prendre toutes les formes, à se preter aux circonstances les plus opposées. Des apparences aimables, un exterieure qui charme et qui seduit, signalent ordinairement le temperament sanguin arterial, que l'on pourrait appeler le temperament du bonheur de la santé et de la beaute." p. 423.

We think that there is both some questionable doctrine, and some vague discussion in this paragraph. We have quoted it, however, chiefly to give the reader some notion of the author's manner of treating this subject, and because it describes the temperament which he holds to be " le plus convenable a l'organization de la femme." p. 424.

The next chapter is dedicated to the history of the varieties of women. It corresponds with that portion of the labour of the natural historian which is generally bestowed on the manners and customs of animals. The author takes a rapid survey of our race in different situations and in different ages ; and, without regarding the question concerning the original state of man, divides the earth into eight grand zones, each presenting a combination of physical causes, under the influence of which our species has assumed the most remarkable varieties of character. These varieties, indeed, the author afterwards, in a note, attempts to reduce to three principal types or classes. But as this is avowedly an artificial division, and as he himself does not lay much stress upon it, we think it unnecessary to enter farther upon such an extensive field of discussion. Neither can we pretend to follow him through the details which this chapter contains. He has collected a great body of curious information respecting women, from the most authentic sources. He has, however, chiefly confined himself to her manners and habits, as they occur in a savage state, imagining that the customs and opinions of more advanced society fall within the boundaries of another science. Though this plan has been adopted by Buffon, in his excellent history of the varieties of man, we think that it has been rather too closely adhered to in the present case, as it is perhaps only useful when an author's inquiries are directed to some point of technical arrangement. A man who takes a philosophical view of his species, must discover that the facts furnished by the natural historian derive most of their value from the tests which they afford of the truth or falsity of our moral and political theories. From this conviction, we are disposed to regret that the author had not more frequently indulged in those speculations which so forcibly illustrate the connection of these sciences. Had he done so, he might probably have abridged some of his details with advantage; and by selecting only the facts which denote the peculiarities of the female character in the different states of society, he might have had a better opportunity of speculating concerning those events which have worked such wonderful revolutions in her manners and opinions.

He has given sufficient evidence, that almost every principle and feeling which guides the actions of woman in civilized life are either reversed or unknown in the savage state. In certain situations virginity is associated with reproach, and it is necessary to have been a mother before becoming a wife. In other states of society, virginity is guarded with the most jealous and unremitting care; and *physical* chastity is looked upon as the only valuable gift which can belong to woman. To minister to the demands of our imperious appetite, to augment the pleasures of sexual love, seem to be objects of primary importance in the rude periods of society, and they again asume nearly an equal ascendancy in the ages of luxury and dissipation. To these sources must chiefly be referred *circumcision*, as practised among different nations, the various species of *infibulation*, the *Saturnalia*, the feasts instituted in honour of *Bona Dea*, and *Priapus*, and all the other monstrous and debasing institutions which characterize either the barbarous ignorance of savage life, or proclaim the high-wrought debauchery of a voluptuous age.

Next to the questions to which we have alluded, nothing more forcibly arrests the attention of the scientific observer, when contemplating the history of our species, than the cruel and inhuman treatment which the female sex uniformly and invariably experiences while in the lowest stages of their existence. Cursed with all the evils which nature has attached to her physical constitution, the lot of woman has been still farther embittered, by the tyranny and oppression of her unfeeling masters. Viewed as an animal of an inferior class, she is sentenced to incessant labour and toil, and degraded by every mean and servile occupation.

When this order of things prevails in greatest force, all the wants of man are purely physical, and all his exertions are directed to remove the uneasiness which these wants occasion. Give him food, and gratify his other appetites, and he will remain for days, for weeks, in a state of sullen inactivity. Nothing but the dread of personal danger, or the cravings of hunger, can rouse him from his sluggish torpor. But, under their controul, his efforts are almost incredible. His perseverance and courage are equal to his address, and he either succeeds or perishes in his attempt. Placed on a barren soil, and exposed to all the vicissitudes of an inhospitable climate, he either spends his time as a solitary wanderer in search of a precarious subsistence, or, accidentally removed from the fear of immediate want, gives a jubilee to his passions, and again yields to his unconquerable indolence.

The physical powers which the female possesses are not of that description which can command the respect of her savage lord. Patient and forbearing, she, without a murmur, submits to the drudgery which the rude economy of her tribe requires. But her labours are never cheered by the voice of approbation, nor are her sufferings soothed by the whisperings of hope. In this state of society, the calls of hunger and the demands of the sexual passion are unquestionably the most importunate motives which actuate the breast of the savage. But, in obeying the all-powerful dictates of the latter, he necessarily increases the pressure of the former, and indirectly contributes to augment the hardships of his wretched existence. Woman stimulates his passions, his passions are gratified, children are procreated, the demands for food are increased, and misery follows. The state of his mental faculties does not allow him to trace this order of events to its proper source. His mind dwells on one link of the chain, and he is blind to all the rest. The unfortunate mother is viewed as the cause of his misery, and she is treated accordingly. The rapturous emotions and endearments of love, and the sympathetic tenderness of mutual friendship avert not her fate. These delights are either never felt, or they are compelled to give way to the more clamorous and urgent necessities of physical want.

This theory is fully supported by all that we know of the condition of our species in the rudest periods of our history; and the mode of reasoning which we have specified, is exactly commensurate to the intellectual powers of the savage. It is exemplified every day in the conduct of children, and, unluckily, it too often guides the actions of men in more advanced stages of society.

As civilization advances, the condition of woman becomes somewhat ameliorated; but her physical constitution never appears in perfection, nor are the qualities of her mind fully evolved, except in situations where arts and refinement are encouraged and protected. Much, therefore, as she is indebted to the institutions of polished life for the improvement of the graces and beauties of her person, she certainly owes infinitely more to the same causes for bettering her moral state, and raising her to her proper level in the scale of beings.

As luxury gains ground, the devotion which is paid to beauty increases. Woman, long degraded and depressed, now triumphs in her turn, and man bows before her a willing slave. Arrived at this pitch of glory, and ruling with uncontrouled sway, her government is seldom stable; having pleasure only for its object, it is for a while supported by sensuality and licentiousness, and, finally, terminates in vice and corruption.

The next chapter is entitled " De la Nature de la Femme." In examining the characters of animals, we find a particular organization presiding over the functions of every species, regulating their appetites and their desires, and determining the nature and extent of their acquirements. The life of woman presents an uninterrupted succession of important changes and revolutions, which are seldom effected without painful suffering. The symptoms connected with menstruation, pregnancy, delivery, and finally, the numerous accidents which are almost inseparable from what is termed the critical period of her life, form a catalogue of remarkable events, which modify her nature, fix her exertions within certain limits, and point out the rank which she should hold in society, and the duties which she has to perform.

The frequent indispositions to which the performance of these functions give rise, necessarily inspire the female with a feeling of her own weakness, soften all her tender sympathies, render her more alive to the sufferings of others, and more easily influenced by the successive impressions of trivial emotions. The same causes extend their power over all the displays of her moral and intellectual faculties. Her greater sensibility renders her attention liable to be distracted by every new sensation. She is consequently less capable of pursuing those prolonged and abstract investigations which mark the path of bold and original thinkers, and impress a character of grandeur on human researches.

The extraordinary mental powers which many women have discovered in different ages and countries, scarcely afford an objection to this doctrine. Few have been remarkable for their acquisions in pure science. Distinguished by a wonderful facility of conception, and a lively but seldom vigorous or profound imagination, they seem to decide by a sort of intuition, and are often able to determine at a glance what the more reflecting sensibility of man cannot accomplish till after reiterated examination.

The greater affectibility, too, of woman, in some measure prevents her from acquiring any permanent or decisive system of conduct. When called upon to act in difficult or dangerous scenes, her deeds in general assume their character, rather from accidental and extraneous circumstances, than from any principles established in her own mind. When violently excited, she abandons herself to every species of excess, yields to the grossest delusions, and, at different times, displays either the most disinterested and magnanimous heroism, or exhibits the hellish fury of the most outrageous incendiary. It is chiefly during times of civil strife and public calamity that such events occur. During these periods maternal love, and all the most powerful motives which can influence the female breast seem to be overturned. Timidity and bashfulness are banished, and women emulate the glory and honour of patriots and soldiers; but, on these occasions, the paroxysms of their courage too frequently degenerate into ferocity.

This degree of mobility of the moral corresponds exactly with the peculiarities which have been remarked to distinguish the physical constitution of women. The symptoms of the various species of hysteria prove this connection in a still more extraordinary manner. The influence of the uterine system, from the moment that it first enjoys its functions to the time that it finally sinks into inactivity, has been already noticed. On some occasions the disorder emanates from it as from a centre, convulses the organs of voluntary motion, and shakes the whole frame. At other times a different order prevails, and similar results take place from the effect of external impressions. Highly excitable, easily elevated by the contemplation of those objects which set their imagination afloat, reason loses its empire, enthusiasm and extacy seem to carry them beyond the common limits of existence, and the agitation of their body is not less powerful than that of their mind.

To the former species of disorder all women are liable by their bodily organization. The latter, though closely and strictly allied to the same cause, is chiefly modified by habit and education. Of this fact the great jugglers of church and state have been perfectly aware in all ages. For proofs of this assertion we need not unveil the secrets of the temples of Apollo and the Sybil, nor have recourse to the effects of the working of the spirit on the daughters of the Romish church. The same religious pantomimes have been acted times out of number * in our own country, and with symptoms of devotion not less violent than those which shook the heathen priestess. As intimately connected with some of the foregoing remarks, we must simply state, that one of the most important results of medical statics has proved, that the proportion of females who are affected with insanity is greater than that of males †.

We should be much inclined to pursue the speculations which naturally arise from these facts, and to follow the author through all his remarks on the character and nature of women, and, above all, to investigate the principles of his division of the passions, which terminates this chapter. But, as we have already exceeded our usual limits, we must bring this subject to a close, and proceed to give a very brief analysis of the second volume.

In addition to the anatomical and physiological discussions which are dispersed through the foregoing divisions of the work, this volume opens with what the author terms a *tableau physiologique du sexe feminin.* The first part of it forms a species of *Venus physique*, which is introduced by a detail of some of the well known experiments of Spallanzani respecting the generation of frogs, and it embraces the whole theory of reproduction, whether in plants or in animals. Next follows the particular history, and the philosophical anatomy of the organs by which woman contributes her part to the propagation of our species, together with an account of their functions, diseases, irregular development, &c. Under the head of marriage and conception, he takes notice of some questions connected with the *medicina forensis*, and presents a copy of a very singular deposition of a jury of matrons who, in 1672, by order of the mayor of Paris, were assembled to decide as to a case of alleged defloration.

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* See the Inquirer, Vol. iii. p. 436.

† Vid. tome premier, p. 122.

After some remarks on pregnancy, delivery, and the physiology of lactation, we arrive at the *hygiène*, which forms the last, and certainly not the least important part of the work.

The first chapter treats of menstruation, its varieties, accidents, and the regimen best adapted for the easy and regular exercise of that function. The second is dedicated to physical love and marriage, containing remarks on the time at which marriage should take place ; the effects which result from premature and unnatural indulgencies, as also those which arise from constrained chastity ; the whole followed by observations on the consummation of marriage, and the regimen of new married women. In the third chapter he examines the principal causes of the accidents which take place during the period of gestation, and delivers rules for the conduct of pregnant women. The fourth chapter treats of delivery, and the regimen of newly delivered women. Here we have precepts to be followed during labour, and an examination of the question respecting the propriety of employing male accoucheurs, &c. The fifth refers to nursing, and the regimen of nurses. This is succeeded by a chapter on the cessation of the menses, or the death of the sex as he terms it, containing an examination of the causes of the disorders which take place at that period, a classification of these disorders, and the means which should be followed in order to avoid them. The seventh chapter is entitled *hygiène des femmes dans ses rapports avec les fonctions relatives a l'individu.* It comprehends three leading articles. The first relates to muscular motion and sensibility, embracing discussions concerning the advantage and choice of the different species of exercise, and handicraft as applicable to women , the effects of the intellectual faculties on the physical system ; the direction of the passions ; and the *hygiène speciale* of the sensations. The second chiefly considers the consequences of particular states of the atmosphere on the sensibility of women, and contains a few observations on the present style of clothing, which we would recommend to the earnest attention of all the ladies. But we are afraid that they will be much more occupied with the third article, which treats of the means of preserving beauty. Here we have remarks on medicated baths, the various species of cosmetics, and the different implements of the toilet, all of which seem perfectly familiar to the author. He next speaks of the female shape as affected by the nature and disposition of the garments, and presents us with many pertinent strictures on *corsets*, girdles, petticoats, garters, shoes, &c. the whole terminated by the description of a Grecian costume.

This volume contains five plates. The two first relate to the female organs of generation. The third represents a fœtus of five months old, as seen through the amnios. The fourth explains the effects of the mechanism of the *corset*; and the fifth represents an Athenian lady in her proper costume. This and the engraving of the Florentine Venus, which serves as a frontispiece to the first volume, are executed with great elegance and neatness.

For the reason which we have already given, we cannot enter more minutely into the examination of any of the numerous topics which are touched upon in this volume. From the view, however, which we have just exhibited, the reader will be enabled to form some opinion of the ground which the author has occupied. We were particularly pleased with the *hygiène*. Removed from the formality and stiffness of a medical treatise, it contains many valuable remarks, which ought to be known by all who take an interest in the welfare of woman. Here the author. discovers a most laudable and tender anxiety for her comfort and respectability; and a comprehensive and enlightened theory of her constitution, dictates all the rules which he delivers for the preservation of her health and her charms, amid the perils by which her existence is so often endangered.

This work, considered as a whole, is an important addition to the philosophy of our species, and goes far to put to rest all disputes concerning the attainments and pursuits of the sexes. While some represent woman as incapable of all serious investigation, fit only to amuse us by her endless frivolities; others extol her as the rival of man in every point, except in the mere article of physical strength. We trust we have already said enough to prove the incorrectness of both these statements. The characters of men and women, in many respects, are totally distinct; and the parts which they have to act in society are determined, not by the variable decisions of caprice and fashion, but by the fixed laws of their physical structure. This is the foundation on which the author builds his speculations, and it conveys to them a degree of force and stability which no other can afford. By following this route, the anatomist and moralist combine their labours, raise the healing art to its proper rank among the sciences, and point out the only sure means of bettering the condition of our species.

II.

Œuvres de VICQ-D'AZYR, *Recueillies et Publiées avec des Notes et un Discours sur sa Vie et ses Ouvrages.* Par JACQ. L. MOREAU, M. D. 6 tomes 8vo. et 1 vol. de planches, in 4to. Paris, 1806.

THIS is a complete edition of the works of Vicq-d'Azyr, together with an account of his life and writings, and a republication of those splendid plates of the brain which every body has admired, although few have had it in their power to possess. A short abstract of the biographical history of this distinguished physician has already been laid before our readers, but there is a great deal of curious and important matter in these volumes, partly relating to theory and partly to practice; and, as none of the author's works have ever been translated into English, we shall run through the whole, and endeavour to give some idea of the additions he made to science. Some of these dissertations were published by the Academy of Sciences, but it is desirable to have them collected together, and put within reach of those who can now buy or borrow them.

The three first volumes are principally filled with *eloges* of the most celebrated men of the last century, written in consequence of a custom which prevailed in two of the academies of France, for the Secretary to write an historical panegyric on the members when they died. M. Vicq-d'Azyr was a distinguished member of both these academies, and, in his quality of Secretary to the Royal Medical Society at Paris for many years, he delivered an eloge upon the following distinguished persons: Buffon, Cusson, Duhamel, Linné, Bergman, Bucquet, Macquer, Camper, Scheele, Poulletier, Spielman, Watelet, Vergennes, Dubourg, Bouillet, Fothergill, Gaubius, Girod, Haller, William Hunter, Lamure, Lefevre, Deshayes, Le Roy, Lieutaud, Lobstein, Lorry, Macbride, Maret, Navier, Pringle, Sanchez, Serrao, Stoll, Targioni, Van Doevren, Montigny, and some other associates of less celebrity. The custom of writing the lives of dead members is an useful one, and puts the society in possession of the elements for a history of science, though we may suppose some facts now and then to be suppressed or enlarged, as they must be when the purpose is to praise.

In the fourth volume are Vicq-d'Azyr's physiological and medical essays; and first, his discourses on anatomy, which are remarkable for a peculiar eloquence, elegance, and correctness of style with which the French write on philosophical subjects, and which was introduced to medical subjects by this author, and in his writings it is not purchased at the expence of brevity or precision. Anatomy, he says, has been the most extolled and the least favoured of the sciences; the study of it presents the greatest number of difficulties to overcome; it is not only without the ordinary pleasing attractions, but attended with many repulsive circumstances:—Mangled and bloody limbs, unwholesome and disagreeable effluvia, the frightful aspect of death, are the objects which it presents. It is only by going down among the tombs of the dead, by hazarding to break through the laws of man, in order to discover the laws of nature, that the anatomist has been able, by painful exertions, to lay the foundation of useful knowledge, and yet every age and every country has thrown the greatest obstacles in the way of its improvement. Besides the difficulties depending upon the universal prejudice, there are others which belong to the nature of the study itself.

He then gives a picture of the difficulties to be overcome in anatomical and physiological investigations, and points out the importance of teaching these two subjects at the same time, and by the same person, and he gives the outlines of his own course of lectures.

Comparative anatomy is usually understood to signify the observation of the relations and differences which subsist between analogous parts in man and the lower animals. Vicq-d'Azyr gave a more extensive meaning to the term, and he not only insisted much upon the advantages of observing the different tribes of animals, but compared different parts in the same individual. The head, he observes, which contains the organs of sense, varies considerably; sometimes it is short and round, as in man, and is articulated by the middle of its base with the first vertebra of the neck; sometimes by the extension of the jaws, it is long, and its posterior extremity is the part that moves upon the neck. The face then becomes elongated, and, whilst it increases in size, the cranium diminishes, but the openings for the passage of the nerves enlarge in the same proportion. As the brain decreases, the nervous cords which arise from it increase in magnitude, because the more robust muscles and organs of animals require a more powerful moving force, and their brain seems to be almost confined to such offices. The clavicle is a bone which is wanting in several animals, and its shape varies considerably. The tongue, os hyoides, and all the parts which serve for digestion, have a constant relation to the different kinds of food. The folds in the intestines are more numerous and larger the farther removed the animal is from man; and the relative situation of the heart varies in the different classes of animals. Man alone is a biped, that is to say, he alone has two thumbs on his hands, without having any on his feet; whilst all other animals have either what answers to a thumb on each extremity, as the several kinds of monkies, or only on the posterior extremities, or none at all, as the generality of quadrupeds.

Linnæus, in some parts of his works, has remarked, that his first intention was to extend the sexual system, which he employed for the classification of plants, to animals, and that he was deterred only through fear of hurting the modesty of his readers. Without inquiring how far that apprehension is well founded, Vicq-d'Azyr declares, that characters could easily be found for such a method of systematic arrangement. Man differs in this respect as well as in so many others from all other animals: the scrotum, and the presence of a bone in the penis, removes the ape, and makes it approach towards the quadrupeds; the form of the prepuce and of the prostate gland; the want of the vesiculæ seminales; the different proportions of the membranous part of the urethra; the situation of the uterine horns, which are not found in the female *pitheque*, whose uterus has only one cavity like that of a woman; the narrowness of these horns in some other monkies, and their great size in the generality of quadrupeds; the length, the size, the direction of the vagina in some kinds of animals; the mobility of the symphysis of the pubes in others; the twisting of the spermatic vessels, and the various reflections of the ovaries; all these taken together, are so many anatomical characters which ought to hold a distinguished place in our researches. Since these diversities in the structure relate to the reproduction of animals, they form one of the most important parts of their history.

The author next proceeds to compare the egg in birds with the product of conception in quadrupeds, and relates some curious facts concerning incubation, and the changes which the egg undergoes in different stages. He thinks the anatomical structure of vegetables has hitherto been insufficiently explored, since the stalk, bark, and leaves of two or three plants, accidentally taken up and examined, have led to the inference that the leaves, trunk, and bark of all vegetables are organized alike, which is not agreeable to the truth. They ought to be analysed individually, and repeatedly examined at different periods of their growth.

The memoir that follows is upon the relative structure and uses of the four extremities in man and in quadrupeds. Vicq-d'Azyr compares the superior extremities in man with his inferior, and examines, in this point of view, the bones, muscles, and blood-vessels in the limbs of the lower animals, and shows how exactly the thigh the leg and the foot resemble the arm and forearm and hand, by only making some allowance for the changes the parts undergo for the sake of supporting and transporting the body. He draws a parallel between the scapulæ and the bones of the ilium, and concludes with a variety of entertaining remarks. The two remaining memoirs in this volume are upon the anatomy of birds: the first, on the organ of hearing in birds compared with that of man, quadrupeds, reptiles, and fish; and the second, on the organ of the voice in man, and the different classes of animals.

After giving a short description of the organ of hearing in man he observes, that birds which make such fine melody must naturally be supposed to have an organ adapted to hear it. The antients hardly knew in what this consisted; and though the most essential parts were known to the modern anatomists, they never were accurately described, and some not known before his time. Our author, therefore, gives accurate descriptions and figures of the meatus auditorius, the membrana tympani, the canal which is instead of the eustachian tube, the labyrinth, the semicircular canals, the straight canals, the auditory, and the meatus auditorius internus. The birds he dissected for the purpose are, the turkey, pigeon, hen, owl, pye, jay, turtle-dove, duck, sparrow, and nightingale. He likewise dissected the ear of the ostrich, and found the semicircular canals very narrow, and of small extent, in proportion to the size of the bird, which is accounted for by its keeping to the ground, and not having occasion for canals so vibrating and so open. The organ of hearing in the bat had never been dissected before it was done by Vicq-d'Azyr, who found that it partook more of the nature of the ear of man and quadrupeds than of that in birds. He enters at length into his comparative anatomy; but as this department has been so ably treated by Cuvier and other anatomists, since the first appearance of this dissertation, we shall pass over all that is here said, and only quote the following inferences.

1st, That if the existence of the little bone is not essential to the perception of sounds, it is at least of great use, since it is met with in all animals capable of hearing, without any exception whatsoever; but it is not necessary that there should be a great many of these bones, since one is sufficient for reptiles and birds. 2dly, The semicircular canals are parts essential to the organ of hearing, since they are to be found in all animals in which this organ has been described. 3dly, The cochlea, which is found in quadrupeds and men only, is not absolutely necessary to the internal ear, since birds, who have it not, hear very well without it.

4thly, Is it not probable that the cochlea and semicircular canals form, in each ear, a double instrument, composed of two very distinct parts, each of which receives sounds separately, though, at the same time, there is such a relation between the two as must add considerably to the harmony, to the sensibility, and if I may say so, to the intelligence of the organ? Finally, As the organs of hearing may be divided into two classes, viz. The absolutely necessary and the accidental, or subservient; and, as birds have the former of them (the only ones they do possess), in far greater perfection than man, may it not be said, that the sense of hearing in them is as remarkable for its simplicity as for its perfection? This is all that can be said with any degree of precision, till we have determined with more certainty the use of the lamella spiralis of the cochlea, which birds are without.

Vicq-d'Azyr pursues the same method in analysing the organ of voice, which he describes in man, in a great number of quadrupeds, birds, reptiles, &c. Many monkies have membranous pockets which communicate with the larynx, and alternately receiving or emitting air, form the cry of the animal. The larynx of the cat has two membranes, which, vibrating when you blow into the trachea arteria, produce a snoring like that we observe in the living cat. The hog has no ventricles of the glottis, but their place is occupied by several hollows, covered with a muscle. In the ass and mule, the thyroid cartilage has a cavity covered with a membrane; the air being alternately pushed into these cavities, and forced out again, increases the voice of these animals, and produces the sounds which are characteristical of them. The organ of the sea-calf resembles that of quadrupeds. That of the bat, on the contrary, is like those of birds; this is the more remarkable, as the animal, in its other parts, seems to belong to quadrupeds. The organ of the voice of birds is differently constructed from that of quadrupeds. They have no epiglottis, but the glottis opens and shuts. This is the only part of the organ which is in the upper part of the neck, the rest is in the lower part, above the bifurcation of the bronchiæ. The membranes of birds are capable of vibrations, and occupy the places of the membranes which, in men, are called the vocal chords. In some particular species, the trachea arteria sinks into the sternum, whilst in others, it extends itself on the outside of it; this disposition seems analogous to the bony cavities in some quadrupeds, and is probably intended for the same purposes, that of giving the voice more strength. Those birds, however, whose voice is the sweetest and most agreeable, have not this extraordinary apparatus, which adds indeed to the strength of the voice, and by so doing, is useful to such animals as are obliged to call each other from afar, but does not afford either pleasure or variety. In general, the organ of speech, like that of hearing, is the more perfect the more simple it is. The vocal chords are found in frogs and other animals of that kind, but they have no epiglottis. Reptiles have only the glottis, and accordingly can only make an indistinct kind of hissing.

Cuvier has directed his attention to the organs of voice of birds, and has discovered several circumstances overlooked by Vicq-d'Azyr, and other writers before him. The results of his anatomical investigations are principally confined to that part of the vocal apparatus which he calls the inferior larynx, and he shews, by satisfactory experiments, that the voice of birds is formed in the lower part of the trachea. In the years 1775 and 1776, Vicq-d'Azyr was sent into the southern provinces of France, into Normandy and Flanders, to ascertain the state of the plague which raged among cattle. He took this opportunity of making some experiments upon living animals, which were condemned to be killed. These experiments were made upon the sensibility of the nerves and tendons, the irritability of the iris, on the intercostal muscles, on the bronchiæ of the fœtus, on the peristaltic motion of the intestines, and on the uterus of the cow. They are not numerous, and the results are rather in favour of established opinions than of any new ideas.

What occupies the rest of the 5th volume being only "*Fragmens de Philosophie Medicale*," and some anatomical essays on fishes, birds, monkies, &c. which contain facts that are now familiar, or a repetition of opinions scattered in other parts of the preceding volumes, we pass on to the last volume. Yet it is worth while just to notice an ingenious little memoir on epizootic diseases and the plague; the analogy between those disorders is illustrated by references to the histories of those almost-forgotten scourges of men and animals, and the means of prevention are described to be the same in both instances. The use of acid fumigations is strongly enforced, and the employment of those efficacious means of arresting contagion is shewn to have been known to every body (except, perhaps, to those who have lately claimed the reward for discovering their advantages), since the days of Homer and Hippocrates.

The editor has prefixed a discourse on the brain to the explanation of Vicq-d'Azyr's plates, and has added, in the form of supplement, the author's thesis, and some short dissertations on the brain and nerves, which were published in the memoirs of the Academy. These, and an essay on burials, are the contents of the last volume. The whole are worthy an attentive perusal, and the editor deserves general thanks for rendering the works of so good an author accessible to every class of readers.

III.

Observations on the Inflammatory affections of the Mucous Membrane of the Bronchiæ. By Charles Badham, M. D. Member of Pembroke College, Oxford, Physician to his Royal Highness the Duke of Sussex, &c. &c. 12mo. London. 1808.

There can be no doubt that, until very lately, erroneous notions had been entertained concerning the pathology of catarrh, peripneumonia notha, and other of those diseases now referred by Dr Badham to inflammation of the mucous membrane of the bronchiæ. Much, however, as we are disposed to acknowledge our obligation to Dr Badham for this very meritorious essay, in which he has directed the observations of physicians to a genus of diseases, more neglected than might have been expected from the importance of the subject, there is a sort of posthumous obligation due also to his predecessors, which the statement of our author calls upon us to acknowledge in the first place.

Dr Badham has admitted, that accounts of most of those diseases are to be found in the writings of physicians; that the catarrhus suffocativus of Hoffman, the pleuritis humida of Stoll, the orthopnœa peripneumonica of Sauvage, and the peripneumonia notha of Sydenham, are examples of the diseases arranged by him under the genus bronchitis. But he shews what confused notions were entertained of the nature of these affections, and how the subject had been obscured by the false doctrines about distillations, defluxions, and infarctions. Sauvage alone, according to our author, had explained one of these diseases, the rheuma catarrhale, on the principles now advanced, "membrana mucosa, quæ vias aerias pulmonum obducit, levi phlogosi afficitur;"—the pathology which Dr Badham would claim as his own, being that which refers these diseases to an inflamed state of the mucous membrane lining the bronchiæ.

In giving an account of the opinions of the modern systematics on bronchial affections, he observes,

> "All talk of infarction (meaning probably of the bronchiæ), but this is merely an effect; and its cause one scarcely doubts to be an increased action of the vessels on their surface, sometimes amounting to real inflammation, at others, to what may be called a sub-inflammatory state. Dr Cullen's observations on the pathology of this disease (for his description is merely that of Sydenham), is very unsatisfactory, and, so far as it goes, is probably incorrect.

He thinks it originally a catarrhal affection, which, in its course, excites some degree of pneumonic inflammation, and destroys life by a serous effusion. Since his time, any inquiry into the seat of the complaint seems to have been waved as by general consent."

Frank and Stoll, however, he acknowledges to have conceived more accurately the nature of the disease. But, in the first place, we cannot think so lightly of Dr Cullen's observations on the pathology of peripneumonia notha, as our author seems inclined to wish. For although Dr Cullen has assigned, as the proximate cause of catarrh, an increased afflux of fluids to the mucous membrane of the nose, fauces, and bronchiæ, he has at the same time observed, that this takes place " along with some degree of *inflammation* affecting these parts ;" and, therefore, when he asserted the resemblance between the peripneumonia notha and catarrh, or that the former is originally a catarrhal affection, that is, an affection attended with some degree of inflammation affecting the mucous membrane of the bronchiæ, he went far towards explaining the true nature of the disease, and assigning to it the same pathology that Dr Badham has done. When he added, that catarrh and this disease had frequently joined to them a degree of pneumonic inflammation, he asserted what no one we imagine will even now deny.

In the second place, the doctrine that this disease consists in an inflammation of the bronchial membrane has been unequivocally delivered by Dr Darwin, a writer whom our author has not even mentioned.

In the Zoonomia Dr Darwin says, " the croup is an inflammation of the upper part, and the peripneumony of the lower part of the same organ, viz. the trachea or wind-pipe." Vol. ii. p. 196, quarto edition. And, again, under the title peripneumonia superficialis, he observes, " the superficial or spurious peripneumony consists in *an inflammation of the membrane which lines the bronchiæ*, and bears the same analogy to the true peripneumony as the inflammation of other membranes do to that of the parenchyma, or substantial parts of the viscus which they surround."—p. 233, loc. citat. The chincough, he also remarks, " resembles peripneumonia superficialis, in its consisting *in an inflammation of the membrane which lines the air-vessels of the lungs*."

With regard to catarrh, we believe that the universal opinion of modern physicians is, that Dr Cullen erred in placing it amongst the profluvia, and that it is generally considered as an inflammatory affection of the mucous membrane lining the nose, fauces, trachea, and bronchiæ. By some this opinion has been distinctly expressed, and we know it to be the general language and belief of this school. Thus Dr Kinglake, in his report on the epidemical catarrh of 1803, speaks of it as an " inflammatory determination to the mucous membrane investing the fauces, trachea, bronchial tubes, and nostrils."—But to return to the work before us:

In the third chapter Dr Badham shows how prone the mucous membrane of the bronchiæ, abounding in glands and follicles, highly vascular, and exposed to the influence of atmospheric changes, must be to inflammation. This disease, as a genus, may be distinguished by the title *bronchitis*; a disease which assumes different aspects, according to the constitutional peculiarities of the individuals affected, and to the nature, probably, of the exciting cause. Three principal species, he thinks, may be thus distinguished, the acuta, asthenica, and chronica.

1st. *Bronchitis asthenica*, the peripneumonia notha of Sydenham and of Cullen,—a disease sufficiently well known by the description left us by these celebrated physicians. A very excellent account of it is also given by our author; but we shall here attend only to its modes of termination.

> " In moderate cases, in the course of a week or ten days, the symptoms decline, the breathing becomes almost natural, and the desire for food returns. But the cough will often remain, on account of the morbid irritability of the passages, for a considerable time, and the patient does not altogether recover his strength till some weeks have elapsed; much, however, depends on a favourable state of the atmosphere. This complaint, it may be added, is one of those which generates in a remarkable manner a predisposition to a future attack.
>
> " Such is the common course of the bronchitis asthenica, or peripneumonia notha: its danger chiefly consists in its power of debilitating to a great degree, not only the constitution in general, but specifically the parts which it attacks; hence a redundant secretion of mucus in unfavourable cases comes on, expectoration ceases, and the patient is suffocated."

It terminates also in a train of symptoms much resembling those of phthisis pulmonalis. There are, however, " our author thinks," materials for a diagnosis. He has known

> " Patients in an extreme state of debility and emaciation, consequent to bronchial inflammation, distend the chest to its full capacity, without feeling much uneasiness, and not any pain, because the substance of the lung is not diseased. They lie down in bed much more easily than consumptive patients, have no shooting pains in the chest, and, though they sweat, there is nothing like that profuse discharge from the skin which produces the solution of the hectic paroxysm. The appearance of the sputa might perhaps be taken into the account, but this cannot be exclusively depended upon."

Patients, of course, do more frequently recover, either spontaneously or with the aid of medicine, from this pseudo-consumption than from phthisis pulmonalis.

2d. *Bronchitis acuta.* The attack of this species is sudden, not slow and insidious like the former. Its progress also is more rapid; and, in a few days, the fate of the patient is determined for recovery or death. The symptoms are, sense of constriction, or uneasy feeling of the chest; hurried and laborious breathing; at length complete orthopnœa; cough soon succeeds, and, though some expectoration attends, there is little or no relief derived from it. The pulse, the surface, the tongue, and the urine, all indicate the phlogistic diathesis. Wheezing is not so common a symptom as in the asthenica. If the disease remain for a few days unsubdued, the pulse, from being hard, soon becomes excessively feeble, and of almost countless frequency; "partial sweats break out at intervals; the patient spits up an immense quantity of a yellow sputa, till, from feebleness, he can expectorate no longer, and then the secretion accumulates in the bronchiæ till he dies."

In this disease, it is remarked by our author, that the local symptoms exceed in violence those of pleuritic or pneumonic affections, and that life is sooner destroyed by it. "The suddeness of the conversion from a state of inflammatory action to an irremediable debility, is particularly striking, and will be invariably found to attend it."

To illustrate the rapid progress of bronchitis acuta, several cases are given. We shall extract one of these.

"About four years ago, a man of forty years of age, exceedingly muscular, and of a health which knew no interruption, went out to Greenwich on Easter Monday, and heated himself by the coarse amusements which are customary on that occasion. He found himself ill on returning to town at night, went immediately to his bed, and was attacked with the symptoms above related. He was seen on the second day; it was then not too late to bleed him, and, as far as recollection serves, this operation was repeated, but with inconsiderable relief. Every other measure which seemed likely to be of service was of course adopted; but he died within the week.

"The chest was examined the day after. The bronchiæ were completely plugged up by a thick tenacious secretion; but the lungs were perfectly sound, and there were no adhesions or other marks of disease."

And this, we may remark, appears to have been the case in all the other dissections, little or no marks of disease being observable in the pleura or substance of the lungs, but the bronchiæ more or less inflamed, more or less infarcted with the morbid secretion.

Our author thinks it probable, he might, we believe, have asserted the fact in the fullest sense, " that the secondary pectoral symptoms of measles, and the dyspnœa which supervenes to hooping-cough, have usually their origin in this affection of the bronchiæ." It seems fully established in the case of measles, as many dissections made during the last epidemic have proved to us, though in some we have also observed decided marks of real pneumonic inflammation.

In the greater number of cases, the accumulation of matter found in the bronchiæ of those who die of these diseases, seems to be only the redundant secretion of mucus with which these organs are naturally supplied; but in some instances there is reason, from the observations brought forward by our author, to conclude that the inflammatory action of the vessels has communicated to it a purulent character.

An inflamed state of the bronchial membrane being assumed as the pathological foundation of these diseases, the symptoms admit of a very easy explanation. The violent pain across the forehead, so common in the bronchitis asthenica, depends on an inflammatory state of that portion of the mucous membrane which lines the frontal sinuses. The wheezing respiration does not, in our author's opinion, depend upon any mechanical obstruction produced by the mucus, as it is most considerable in the first stage of the disease, before the secretion is established, and as it is greatly moderated when the inflammatory tension goes off. The wheezing respiration is therefore attributed " to a certain constricted state of the parts, a greater rigidity or straitness than is natural, excited by the inflammation which affects them."

There is, however, another kind of noisy respiration, more commonly observed in children, who do not so easily relieve themselves by expectoration, which depends on the accumulation of mucus in the bronchiæ.

The surprising debility which so suddenly supervenes in bronchitis Dr Badham attempts to explain, by supposing that the changes which the blood undergoes during the pulmonary circulation, may be prevented or impeded by the abundance of the secretion, interposed like a varnish between the air and the blood-vessels. The blood thus deprived of its pabulum, no longer stimulates the heart to a just degree of action; the circulation, therefore, becomes languid, and the pulse sinks.

With regard to the diagnosis of bronchitis, the acuta seems the only species liable to be mistaken.

"In the author's apprehension, the peculiarity of the respiration will constitute the least erroneous test on this occasion. The disease is not likely to be confounded with peripneumony; and, from pleuritis, it may be known by the absence of the sharp pain of the side; by the presence of a more extended feeling of soreness, uneasiness, or pain, so that the patient cannot refer to any circumscribed spot; by the power of turning on either side without increasing that pain; by an urgent necessity for preserving an inclined posture of the trunk of the body; and if the wheezing noise should attend, the case will be very distinctly marked. There is moreover, an anxious distrest countenance in the bronchial inflammation, which one does not notice in the pleurisy; and the state of the pulse is certainly different: it is frequent, and it is hard, but it wants the sharpness and the vibrating feel of the pleuritic pulse. There is something here in the nature of the part inflamed, which has an influence on the kind of pulse produced, just as in enteritis, and inflammation of the stomach. The pulse in all these diseases, as all practical writers have noticed, is not like the pulse of other visceral inflammations. Add to these considerations the general appearance and the history of the case, and no great doubt can remain."

The *prognosis* in bronchitis is generally doubtful. The danger of bronchitis acuta is far greater than in pleurisy; and, if the stage of debility has already supervened, there is little hope. Recent cases of the asthenic diseases are not so dangerous, unless in aged and debilitated subjects. Cases in advanced life often prove fatal, or terminate in chronic cough, sometimes in hydrothorax.

Treatment of bronchitis acuta. In the commencement of the disease, while the symptoms of inflammatory action still continue, blood-letting is the important remedy; and yet, our author observes, the practice, though of unequivocal propriety, has not the same success to recommend it as in other phlogistic diseases. But if "we are to recollect, that where venesection is proper at all, it is certainly the remedy, perhaps the only remedy by which the inflammatory action can be cut short," we believe many of our readers will agree with us in thinking that, in a disease so acute as this, in which the inflammatory action so soon subsides into a state of almost irremediable collapse, the bleedings should be larger than those Dr Badham seems to have been accustomed to order. "Twelve ounces," he says, "taken quickly from a vein in the arm, will perhaps generally constitute a sufficient bleeding in a case of moderate violence." It is properly added, indeed, that "every thing depends on the case." But twelve ounces of blood appears to us to be, in any case, a very spare bleeding.

Of blisters he has no very high opinion. "It must, indeed," he adds, "be a very slight affection of which a blister will effect a cure." The bowels should be opened by an active purgative. Diaphoretics are useful remedies in all diseases of the lungs; nothing will answer better than a combination of the aqua ammoniæ acetat. and the tartarised antimony. And in the author's opinion, the steady employment of antimonials in repeated doses, short of what may produce vomiting, is of considerable importance. The inhalation of the vapour of hot water might be of service in this complaint, if it could be used without fatiguing the patient.

Calomel has been employed with striking advantage in the croup, and, from analogy, would seem to be a remedy of some promise in this disease. But, as yet, he does not appear to have had any experience of it in bronchitis acuta, although, in the more chronic diseases of this genus, he has found it to relieve the chest materially. Digitalis, though of service in the asthenic, does not appear to merit any superior reputation in acute bronchitis.

If the remedies directed against the inflammatory stage have proved unavailing, and the symptoms of debility have succeeded, nothing remains but to support the failing strength, and to stimulate the languid circulation. Emetics also may be tried, but, under such circumstances, could not probably be repeated.

Treatment of Bronchitis Asthenica.—Blood-letting is sometimes necessary, but the inflammatory diathesis may often be sufficiently reduced by regimen alone. To expectorants, as they are called, some efficacy is attributed; those which act generally on the extreme vessels of the surface are the most to be trusted to, and antimony and ipecacuanha are the best of this class. Squill is thought to have less efficacy, but sometimes does a little good. "Three grains of the powder of squill, with one grain of calomel, and the same quantity of digitalis, taken for some nights in succession, has been, in several instances, productive of material benefit." The fetid gums, ammoniacum, and still more assafœtida, are sometimes found useful. To unload the bronchiæ, by the occasional employment of emetics, is an useful practice. Opium should be used with great reserve, and while there remains the general symptoms of fever, it is inadmissible.

Against the debility which the disease so often leaves behind it, tonics are essentially called for, and, if the season be favourable, change of air.

The 3d species of bronchitis, *(bronchitis chronica.)*—To this belong chronic coughs, tussis cum dyspnœa, catarrhus pituitosus, catarrhus senilis, &c. Under this head, Dr Badham has furnished some judicious observations on the history and treatment of chronic coughs. They are often attended with some degree of fever, and disorders of the digestive organs, for which, saline cooling laxatives are required. But the leading character which must guide us in the treatment of these, is, that they are diseases of topical relaxation, and attended with more or less debility. Expectorants are unnecessary; for in most cases, the secretion is already redundant. The best remedies are tonics and moderate stimuli, bitters, chalybeates, myrrh, mineral acids. A grain of white vitriol, three times a-day, is said to be often of considerable use.

We conclude by recommending this work of Dr Badham to the attention of our readers. It is one of those from the perusal of which they cannot fail to rise intsructed.

IV.

Observations on Lithotomy; being a republication of Dr James Douglas's *Appendix to his History of the Lateral Operation for the Stone, and of the other Original Papers relative to Mr* Cheselden's *invention and improvement of that Operation. To which is added a Proposal for a New Manner of Cutting for the Stone.* By JOHN THOMSON, M. D. one of the Surgeons to the Royal Infirmary, Professor of Surgery to the Royal College of Surgeons, and Regius Professor of Military Surgery in the University of Edinburgh. Edin. 1808. 8vo. Pp. 91.

DR THOMSON was induced to become the editor of these valuable tracts from a conviction that Mr Cheselden's improved operation was now but very imperfectly known to surgeons, and that an operation, once indeed practised by Cheselden, but afterwards abandoned by him, had, not unfrequently, been mistaken by writers for his last improvement;—an operation which, in the opinion of Dr Thomson, still remains unrivalled in the simplicity of the invention, and in the facility and security with which it may be performed.

At a time when surgeons, beginning again to perceive the inconveniences and dangers of the cutting gorget, are endeavouring to simplify and improve the operation, it was necessary, perhaps,

haps, to recal to their attention that operation, once so admired, and which the gorget of Hawkins had superseded. The materials which, with these views, have been republished by Dr T. are,

1st, Dr Douglas's Postscript to his History of the Lateral Operation for the Stone, containing an account of Mr Cheselden's first manner of performing that operation.

2d, Mr Cheselden's account of his second manner.

3d, Dr Douglas's Appendix, containing an account of Mr Cheselden's third manner.

4thly, Mr Cheselden's own account of his third manner.

In his first operation, Mr Cheselden, cut directly into the bladder. Having made the usual external incision in the left side of the perinæum, he thrust the fore-finger of his left hand into the middle of the wound, in order to press the intestinum rectum to one side, and taking in his other hand a crooked knife, with the edge on the concave side, he thrust the point of it through the wound, close by his finger, *into the bladder, between the vesicula seminalis and os ischium* of the same side; then lowering his hand, he continued this second incision upwards, till the point of his knife came out at the upper part of the first. In this operation, the bladder was previously distended with water.

In his second operation, he cut upon the staff, through the prostate gland, straight on to the bladder. "I feel for the staff, and cut upon it the length of the prostate gland, straight on to the bladder, holding down the gut all the while, with one or two fingers of my left hand." This, it is observed by Dr Thomson, is the operation described by Morand and most French authors, as the method of Cheselden. "But that Mr Cheselden never resumed his second manner of cutting, may be presumed from his continuing to describe the *third* only in all the editions of his anatomy, published subsequent to that of 1730." In this third operation, he cut the same parts as in the second, but in the contrary way, from the bladder, through the prostate to the urethra.

"His knife first enters the groove of the rostrated or straight part of his catheter, through the sides of the bladder, immediately above the prostata, and afterwards the point of it continuing to run in the same groove, in a direction downwards and forwards, or towards himself, he divides that part of the sphincter of the bladder that lies upon that gland, and then he cuts the outside of one half of it obliquely, according to the direction and whole length of the urethra that runs within it, and finishes his internal incision by dividing the muscular part of the urethra on the convex part of his staff."

Dr Thomson's proposal for a new manner of cutting for the stone is thus described :—

" After having made the external incisions, and divided the membranous part of the urethra, in the way that is usually done, for the introduction of the beak of the gorget, a straight grooved staff is to be introduced into the groove of the curved staff, and pushed along it into the bladder. The curved staff is then to be withdrawn, and the surgeon, laying hold of the handle of the straight staff with his left hand, and turning the groove upwards, and a little outwards, presses the back of it downwards, towards the right tuber ischii, and holds it steadily in that position. The point of a straight-backed scalpel being now introduced into the groove of the staff, with its cutting edge inclined upwards, and a little outwards, is to be pushed gently forwards into the bladder. The size of the scalpel need only be such as will make a wound in the prostate gland and neck of the bladder, sufficiently large to admit the fore-finger of the left hand. The scalpel being removed, this finger is to be introduced into the bladder, through the wound which has been made, and the staff may then be withdrawn. With the finger, the surgeon endeavours to ascertain the size and situation of the stone. If, after this examination, he judges the incision in the neck of the bladder to be too small for the easy extraction of the stone, he next introduces into the bladder a straight probe-pointed bistoury, with its side close to the fore-part of his finger, and its cutting edge upwards. By turning this edge towards the left side, and by keeping the point of his finger always beyond the point of the bistoury, he may safely divide in the direction of the first incision, as much of the prostate gland and neck of the bladder as he shall deem necessary. In cases where the surgeon, from a previous examination, has no reason to believe that the rectum, by its dilatation, is in danger of being wounded, the groove of the staff, and of course the edge of the scalpel, may be turned in making the internal incision towards the left side; but if it be suspected that the stone is of a very large size, and that a proportionably large opening will be required, the back of the staff may be made to rest, as in the introduction of Mr Peile's gorget, upon the arch of the pubis, before the scalpel is introduced, and carried forwards into the bladder, with its edge inclining outwards and downwards. In both of these cases, however, the enlargement of the internal incision will be more easily and safely effected by the probe-pointed bistoury, in the manner described, than by the use of any cutting instrument, the action of which is not regulated by a finger introduced into the bladder."

" This manner of operating differs, it is obvious, from that now generally practised in this country; in the instruments which are used in making the internal incision; in the direction, in some cases, of the incision itself; in the constant introduction of the finger into the bladder, previous to that of the forceps, to ascertain the size of the internal incision, and. if possible, also the size and situation of the stone; and in employing the finger as a conductor for the knife, in all cases in which it may be necessary to enlarge the internal incision."

V.

Cases and Observations on Lithotomy, including Hints for the more ready and safe performance of the Operation (with an engraving). To which are added, Observations on the Chimney-Sweeper's Cancer, and other miscellaneous remarks. By W. SIMMONS, Surgeon. Manchester. p. 40. 12mo. 1808.

In the compass of forty pages, we find here discussed these important subjects, *lithotomy*, *chimney-sweeper's cancer*, *inveterate ulcer on the alæ nasi*, and *dislocation*. It is impossible to enter very fully upon either of them in so small a space; and we are disposed to applaud the benevolent motives of the author rather than to condemn the want of interest or novelty in his practical hints. He wishes to impress on the minds of operators for the stone, that the membranous portion of the urethra should be exposed by the first incision, and the opening into the bladder should begin there, a rule which is generally agreed upon by surgeons, although the cases related by Mr Simmons do not appear connected with this point. He next describes one solitary case of cancer on the scrotum of a chimney-sweeper, in which the patient experienced relief from the internal use of the arsenical solution, yet no other benefit than some temporary abatement of the pain was derived from its use. An ulcer on the side of the nose was cured by touching the surface every day with argentum nitratum. And the author recommends *extension* to be made in cases of inability to move the limb, after it has been bruised or dislocated and reduced, because, he says, membranous adhesions are formed about the capsular ligaments; and the muscles and tendons passing over the joint become fixed by adhesive inflammation, and require force to separate them, and to set the parts at liberty.

These observations coming from an hospital-surgeon, and, therefore, derived from experience, are not to be despised, although they appear in no inviting form; they would be more valuable if they were more multiplied, and by that means rendered more fit for a separate publication.

VI.

Practical Observations on the Radix Rhataniæ, or Rhatany Root, a production of Peru. By RICHARD REECE. London. p. 50. 12mo. 1808.

THE rhatany root is imported from South America, where it has long been known, and collected for the use of Portuguese merchants, who employed it in improving the colour and astringency of red wine for the English market. It resembles the madder-root in its external appearance, and is supposed to be the root of the cinchona cordifolia, although no precise information is yet furnished on this subject. In its sensible qualities it is more like the Peruvian bark than any other substance, for it discovers a grateful astringency, an aromatic bitter taste, and yields a considerable quantity of extractive matter. These qualities, along with its colouring matter, are imparted both to cold and boiling water, and to proof spirits. From this short history the inference follows, that it possesses great powers as a tonic and stomachic medicine; and, accordingly, evidence is adduced to show that it is superior in efficacy to the preparations of cinchona, and never fails of curing all sorts disorders! Some of the root and extract has been brought into our drug market, and it is said to be *cheaper* than the bark, which is an additional recommendation in its favour, and may lead to some useful application being made of it in the hospitals and dispensaries of the united kingdoms. It has been given under the following forms: in substance, infusion, decoction, and tincture. Fine powder has answered best in intermittents and epilepsy, in doses from ten to thirty grains, every two or three hours, in some mint water, or in the form of an electuary; and the other formulæ may be prepared and administered in the same manner as the bark is directed to be employed in that koran for English apothecaries, the London Pharmacopœia.

VII.

On Hydrophobia, its Prevention and Cure; with a Description of the Different Stages of Canine Madness. Illustrated with Cases. By BENJAMIN MOSELEY, M. D. Physician to his Majesty's Royal

Military Hospital at Chelsea, &c. &c. p. 34. 8vo. London, 1808.

The kind of writing to which this pamphlet, and a great part of newspaper medical essays belong, if such authors are not shamed out of their present course, will cheat many out of the comfort of their lives, and deprive them of the benefits of thinking there is some truth in physic. We have always objected to this continual talk about diseases and remedies, and when we find a writer addressing himself to the people and not to the brethren of his profession, we suspect his motives are not always so disinterested as they should be. Dr Moseley is sufficiently well known by his former publications, to require any proofs of his understanding being under the influence of an eccentric vanity. It is from this principle that he has been impelled to publish, in the *Morning Herald*, two cases, with some remarks on canine madness, in which he treats ancient and modern physicians with the greatest contempt, and tells the Quidnuncs no one has ever seen and described the disease in all its stages. But, to any man acquainted with medical books, such an assertion betrays no small mark of ignorance and presumption. Who has not read, in the first volume of *Medical Communications*, in the *Manchester Memoirs*, in *Dr Ferriar's Medical Facts and Observations*, and in *Dr Hamilton's work on Hydrophobia*, several histories minutely detailed, and written with the most accurate attention, by men of talents and reputation? Yet Dr Moseley pretends to inform the world, that the symptoms of hydrophobia are as ill understood as they were in the time of Ovid and Celsus; happily, however, many cases have occurred to *him* lately, and *he has cured them.*—P. 9. Two of these cases are circumstantially related; one patient died ten hours after the Doctor saw him; the other was cured by rubbing in four ounces of ung. hydrargyri fort. within 48 hours after the commencement of the disease. Several other cases are alluded to, which were successfully treated in the same way, by speedily affecting the system with mercury, and applying lunar caustic to the wounds.

However cavalierly Dr Moseley has treated his predecessors, it must be allowed that he has shewn no preference to his contemporaries, for he does not allude to any one of them amidst his quotations, and he seems to think himself the only man who has described the disease, and knows how to treat it.

PART III.

MEDICAL INTELLIGENCE.

UNIVERSITY OF EDINBURGH.

THE Classes for the different branches of Medical Education will be opened the ensuing session as follows :—

Anatomy and Surgery	Wednesday, Oct. 26.	1	Drs Monro
Chemistry and Chemical Pharmacy		10	Dr Hope
Dietetics, Materia Medica, and Pharmacy		8	Dr James Home
Theory of Physic		11	Dr Duncan sen.
Practice of Physic		9	Dr Gregory
Theory and Practice of Midwifery	Nov. 8.	3	Dr James Hamilton
Military Surgery	Friday, Nov. 18. 7 in the evening.		Dr Thomson
Natural History	Wednesday Nov. 23. 2.		Mr Jameson

A Course of Practical Anatomy will be given under the superintendance of Dr Monro junior, and Mr Fyfe.

Clinical Lectures on the Cases of Patients in the Royal Infirmary, by Dr Home and Dr Duncan—the first lecture by Dr Home, on Tuesday, November 8, at 4 o'clock afternoon.

Clinical Surgery by Mr Russel—the first lecture on Monday, October 31st, at 5 P. M.

During the summer session, lectures will be given on the following branches of education .

Botany, by Dr Rutherford.
Midwifery, By Dr Hamilton.
Morbid Anatomy, by Dr Monro junior.
Clinical Lectures on Medicine, by Dr Home.
Clinical Lectures on Surgery, by Mr Russel.
Medical Jurisprudence, by Dr Duncan junior.

On the 24th of June, the Senatus Academicus of Edinburgh conferred the degree of Doctor in Medicine on the following Gentlemen, after having gone through the appointed examinations, and publicly defended their respective inaugural dissertations:

From Ireland.

Richard Greene, A. B. T. C. D.	*De Somniorum Phenomenis.*
J. De Courcy Laffan,	*De Usu et Effectu Digitalis Purpureæ.*
George Augustus Borthwick,	*De Amaurosi.*
Mason Stanhope Kenny,	*De Cynanche Tonsillari.*
John Moore,	*De Febribus Intermittentibus.*
Edmund George Ryan,	*De Tetano.*
Gulielmus Macarteney,	*De Rachitide.*
James Beatty,	*De Consensu Partium Corporis Humani in Statu Morboso.*
Robert Bredin, A. B. T. C. D.	*De Ascite.*
Richard Kennedy, A. B. T. C. D.	*De Aquæ Natura et Usu.*
Michael M'Creery,	*De Hydrocephalo Acuto.*

From America.

John Grimke,	*De Podagra.*
Francis Hunter,	*De Ætheribus.*

From Jamaica.

Robert Benstead Wright,	*De Vaccina.*

From Barbadoes.

R. Hamden,	*De Glandulari Morbo Barbadensi.*

From Montserrat.

Richard H. Dyett,	*De Diabete Mellito.*

From St Christopher's.

J. T. Caines,	*De Arthritide.*

From Scotland.

James Veitch,	*De Methodo Tractandi et Præcavendi Febrem Flavam Indiarum Occidentalium.*
Colin Rogers,	*De Hydrope Asthmatico, in Ceylonia Grassante,* Beri-Beria *dicto.*
Georgius Goldie,	*De Ictero.*
Charles Wightman, A. M. Ed.	*De Consensu Ventriculum inter et Cerebrum.*
Charles Fergusson Forbes,	*De Febre Intermittente.*

John

John M. G. Malloch,	*De Diabete Mellito.*
James Ranken,	*De Evolutione et Decremento Corporis Humani.*
William Thomson,	*De Dysenteria.*
John Morison,	*De Mania.*

From ENGLAND.

John Bunnell Davis,	*De Pthisi Pulmonum.*
Noel Thomas Smith,	*De Hæmatemesi.*
Charles Carr,	*De Febre Flava Indiæ Occidentalis.*
John Clayton Hall,	*De Dysenteria.*
Peter Francis Luard,	*De Ebriosorum Morbis.*
James Cowles Prichard,	*De Generis Humani Varietate.*
Hardwicke Shute,	*De Arthritide.*
Joseph Arnould,	*De Melancholia.*
William Back,	*De Dysenteria.*
Edwin Goddin Jones,	*De Pneumonia Febre Typhode Complicata.*

From WALES.

William Bonsall,	*De Hydrope Anasarca.*

And, on the 12th of September, the same honour was conferred on the following Gentlemen:—

From ENGLAND.

Robert Chisholm,	*De Rheumatismo Acuto.*
Joseph Carter,	*De Dyspepsia.*

From WALES.

Evan Gryffydh,	*De Visus Sede.*

From IRELAND.

Usher Glanville Doyle,	*De Tumoribus Syphiliticis.*
George Frank Todderick, M. B. A. M. T. C. D.	*De Aure Humana.*
James Vance Miller, A.B. T. C. D.	*De Dyspepsia.*
Thomas Campbell Brown,	*De Apoplexia Hydrocephalica.*

From SCOTLAND.

Benjamin Bartlet Buchanan,	*De Opii usu ejusdemque Effectibus in Corpus Humanum.*
Robert Graham,	*De Frigoris Effectibus in Corpus Humanum.*
John Shaw,	*De Scorbuto.*
George Govan,	*De Respiratione Difficili.*
Robert Ralston,	*De Hydrocephalo Acuto.*

From SOUTH CAROLINA.

William James Ball,	*De Dysenteria.*

From INDIA.

Thomas Taylor, A. B. T. C. D.	*De Rubeola Vulgari.*

UNIVERSITY OF GLASGOW.

THE Medical Lectures in the University of Glasgow will begin on Tuesday the 1st of November, at the following hours:

Dietetics, Materia Medica, and Pharmacy, by Dr Millar, at 10 o'clock in the forenoon.

Midwifery, by Mr Towers, at 11.

Theory and Practice of Physic, by Dr Freer, at 12.

Anatomy and Surgery, by Dr Jeffray, at 2 o'clock afternoon.

Chemistry and Chemical Pharmacy, by Dr Cleghorn, at 7.

Clinical Lectures on the cases of patients in the Royal Infirmary, on Thursday evening the 10th November, at 6 o'clock.

Dr Brown will begin his Lectures on Botany about the beginning of May next.

Regulations enacted by the Senate of the University of Glasgow respecting Degrees in Medicine.

1. That before any person can be allowed to be a candidate for a degree in medicine in this University, he shall appear personally before the Senate, and lay before them evidence that, during the space of three years, or sessions of six months each, he has regularly attended in some university, or in some medical school or schools of reputation, the following medical classes, viz. anatomy and surgery, chemistry and pharmacy, the theory and the practice of physic, materia medica, and botany.

2. That he shall bring forward evidence that, during one year at least, he has attended medical classes in this University.

3. That the candidate shall undergo three separate examinations in private by the medical professors of the University, and write a commentary on an aphorism of Hippocrates, and another on a case of disease propounded to him by the said examiners. The first examination shall be on anatomy and physiology; the second on the theory and practice of physic; and the third on chemistry, materia medica, pharmacy and botany.

4. That the examiners shall report to the Senate their opinion respecting the medical knowledge of the candidate; and if their report be favourable, his name, as a candidate for a degree, shall be entered in the minutes of Senate, and a day fixed when the candidate shall read his commentaries on the aphorism and case, and answer such questions on the several branches of medical science as shall be put to him by the examiners, in presence of the Senate. If the Senate be of opinion that the candidate has shown himself worthy of a degree, it shall be conferred in presence of the Senate, by the Vice-Chancellor, provided the candidate has not published a thesis, which he may or may not do, according to his own option; but, if he has published a thesis, he must defend it, and the degree must be conferred in the comitia.

5. That the whole of the examinations shall be carried on, and the commentaries on the aphorism and case must be written in the Latin language.

The following gentlemen have obtained the degree of Doctor in Medicine, from this University, within the last twelve months.

Mr Maham Haig, - -	from America.
Mr John Reid, - -	from Scotland.
Mr Richard Jones, - -	from Ireland.
Mr Charles Whittell, - -	from England.
Mr Stephen Geary Wilks, -	
Mr John Brown, - -	from Scotland.
Mr Gabriel Jean M. De Lys,	from France.
Mr Geo. Cunningham Monteath,	from Scotland.
Mr John Allan, - -	
Mr Samuel Caldwell, - -	from Ireland.
Mr George Wray, - -	from England.
Mr John Monteath, - -	from Scotland.
Mr Robert Muir, - -	

St George's Hospital.

Dr Pearson, F. R. S. senior physician to the Hospital, gives, on Physic and Chemistry, three courses during the year, commencing in February, June, and October. On Therapeutics at a quarter before eight, Physic at a quarter past eight, and Chemistry at a quarter past nine in the morning, at his house, George Street, Hanover Square. To commence October 5th, at eight in the morning.

Single course of all the lectures,	L. 8 8
Perpetual to all the lectures, - -	10 10
Perpetual to any two courses and the Clinical lectures, - -	7 7
Single course of Chemistry, -	4 4
Perpetual to the Chemistry, - -	6 6

Mr Home, F. R. S. surgeon to the Hospital, gives Lectures gratuitously to the pupils of the Hospital, on the principal Operations of Surgery, commencing on the third Thursday in October, at twelve o'clock.

Mr Gunning, F. L. S. surgeon to the Hospital, gives two courses of Lectures, on the Principles and Operations of Surgery, at his house in Conduit Street, Hanover Square. The first commences the beginning of October; the second in the middle of January. The Operations of Surgery are exhibited on the dead subject; directions given for the examination of dead bodies, with rules for drawing up reports of morbid appearances, both for medical and judicial uses; and the whole course illustrated by a reference to the cases which occur in St George's Hospital.

First and second courses, each L. 3 : 3,—perpetual, L. 5 : 5s.

London Hospital.

Dr Buxton will, on Monday 3d October, commence a course of Lectures on the Theory and Practice of Medicine, and one on Materia Medica.

Report of Diseases treated at the PUBLIC DISPENSARY, *(near Carey-Street,) London, from May* 31*st to August* 31*st* 1808.

Acute Diseases.

	No. of Cases.		No. of Cases.
Typhus	1	Otalgia	1
Tertiana	1	Catarrhus	33
Quartana	1	Pneumonia	7
Synochus	38	Pertussis	6
Rubeola	14	Hepatitis	3
Scarlatina	17	Cholera	6
Erysipelas	2	Hæmorrhagia intestin.	1
Miliaria	2	Vomitus biliosus	1
Urticaria	2	Febris infantum	11
Herpes zoster	3	Rheumatismus	2
Cynanche tonsillaris	6	Hydrocephalus	1
——— Maligna	1	Abortus	1

Chronic Diseases.

Cephalæa	10	Leucorrhœa	10
Vertigo	3	Menorrhagia	15
Catarrhus chronicus	24	Dolor uteri	4
Phthisis et Hæmoptysis	22	Ischuria	1
Asthma et Dyspnœa	6	Enuresis	1
Gastrodynia	11	Nephralgia,	10
Dyspepsia	16	Hydrops tot. corporis	4
Hæmatemesis	2	Ascites	4
Icterus	3	Hydrothorax	1
Enterodynia	16	Anasarca	10
Constipatio	3	Rheumatism. chron.	23
Diarrhœa	16	Lumbago	6
Dysenteria	15	Pleurodyne	1
Marasmus	6	Mania	1
Colica pictonum	2	Lichen	1
Tænia	2	Psoriasis	2
Verminatio	6	Prurigo	4
Asthenia	48	Porrigo	1
Chlorosis et amenorrhœa	7	Scabies	7
Hysteria	6	Impetigo	2
Epilepsia	3	Purpura	2
Paralysis	5	Ecthyma	1
Apoplexia	1	Scrofula	2

The summer months have been, on the whole, dry and temperate, particularly June and August. In the middle of July, a few days of unusual heat occurred; the thermometer in the shade having reached the altitude of 92° on the 13th, and 89° on the 14th of that month; and, towards the end, some heavy rains fell.

The number of bilious diseases, which are commonly multiplied by continued hot weather, has, in consequence of the general mildness, been comparatively small. The cases of cholera occurred in July. Those of synochus and diarrhœa were most numerous in August, probably in consequence of the rains that fell in the beginning of this month and the end of July: about which time also, the cases of pneumonia, which assumed the acute form of pleuritis, appeared.

The febrile diseases have put on a mild form. The synochus, or summer fever, has not, in general, shown any untoward symptoms, nor been protracted to any considerable length. Measles and scarlet-fever have been prevalent, but the former have disappeared without leaving behind the severe pneumonic symptoms, which usually ensue at a more unfavourable season of the year; and the scarlet fever has been either unattended with sore throat, or with a mild degree of it, except in one or two cases, in which a considerable tumefaction of the uvula, tonsils, and tongue took place, resembling rather the inflammatory cynanche, than the common concomitant of scarlatina. None of the cases terminated fatally.

The case of intestinal hæmorrhage occurred in a girl of eight years of age, in consequence of having swallowed a great number of cherry-stones. These substances occasioned severe pain, and a considerable discharge of blood per anum, which were soon removed by the use of purgatives and glysters; and no other ill consequence ensued.

The salutary effects of the interdiction of variolous inoculation by the governors of the small-pox hospital, are now conspicuous. Although the summer is the season of the usual prevalence of small pox, no case has appeared at the dispensary during the last three months.——*Aug.* 31*st* 1808. T. BATEMAN.

SOME time ago his Majesty in Council, upon reference to the Board of Admiralty, was pleased to double a pension granted to Dr Gilbert Blane, for his services as physician to the fleet in the West Indies during the American war, in consideration of his farther services while Commissioner of sick and wounded seamen, and in compensation for having been deprived of that office by a former Board of Admiralty, upon the reduction of that Board after the peace of Amiens.

Cystic Hernia.

WE have been informed, that Mr Allan Burns of Glasgow, last winter, met with an instance of that rare species of hernia. The tumor appeared in the pudendum of an old woman, and the bladder was found to have been protruded between the origins of the *levator ani* and *obturator internus* muscles; and the stricture might have been formed by the *levator ani*. From the very deep seat of the stricture, it would have been almost impossible to have removed it by art. The above preparation was exhibited by Dr Monro jun. during his lectures on hernia, who having obtained Mr Burns's permission, took a drawing of the parts, which is now in the hands of the engraver. On a future occasion we shall give a more full account of this interesting case.

Extract of a Letter from Mr GIBB, *Bolton, Lincolnshire, on Capital Operations on the Pregnant Subject, and Urinary Calculi.*

IN your Journal for April last, the Inquirer, No. XIII. requested information concerning capital operations performed on the pregnant subject.

About eight years ago, at the infirmary of this place, I amputated a leg, above the knee, of a married woman, in the fourth month of pregnancy, who was afterwards safely delivered at the usual time. The disease was white-swelling of the knee, of four years standing, but she was so anxious to have the operation performed, that she concealed her situation.

In answer to his 4th query, on urinary calculi, stone is so rare a disease in this town and neighbourhood, that, in fifteen years, I only know of one case in our circuit where it was necessary to perform the operation of lithotomy, and not more than three or four cases where the calculi passed by the urethra in small pieces. We, almost all of us in the town, drink rain-water from the tops of the houses, kept in cisterns made of brick and mortar, or in water-tubs made of oak. In the country the water most used for culinary purposes and drinking is in general rain-water, collected and retained in pits made for that purpose in the pastures. The soil is generally strong clay, otherwise a light silt that does not long retain the water.

Case of Hæmorrhagy, in consequence of the extraction of the roots of a decayed tooth, by Dr ROBERT PATERSON, *Elgin, Morayshire.*

ON the second of May I was called to a man who had suffered great pain for some time before, from the decayed roots of one of the anterior molares in the lower jaw. I mentioned to him, that the only certain way of relieving him was by removing the fangs, which he readily agreed to, and was done by means of the key instrument, with but little pain, and, comparatively, little trouble. Next morning I was informed by his wife, that the part from which the stump had been drawn was still bleeding. I was the more surprised at this, as I was confident no violence had been used, and more particularly when, upon inquiry, I understood that the hæmorrhagy had not come on till several hours after the operation. On inquiring whether he was subject to profuse bleedings from slight wounds, I was informed that a mere scratch bled very profusely, and was stopt with difficulty; and that this was constitutional in his family. I recollected that a nephew of this man (though not a patient of mine), a young boy, had bled to death from a small cut which he accidentally received upon the inside of the upper lip, and to which the potential cautery had been applied with no advantage. Upon inspecting the part where the stump had been drawn, I found that the blood oozed out pretty freely, and from a particular spot. I desired him to stuff the opening with soft lint, and to keep his jaws locked, thinking that compression might have the desired effect, which it had, in some degree, for a day or two; but, after this, it recurred with the same violence. Styptic applications were then tried, but with no permanent or decided good effects. I was now determined to have recourse to the actual cautery, as the only probable chance of success. I accordingly removed the lint, and having washed and sponged the part, perceived that the blood came from the same spot; I then applied a red-hot wire with a broad point, which completely suppressed it. Two days thereafter, the hæmorrhagy returned. I resolved to apply the cautery a second time, imagining that I had not applied it so freely as I ought to have done at first: I was again successful, but it returned after an interval of two or three days; and, upon a third repetition, it completely failed. I communicated my want of success to a medical friend (a case of the kind never having occurred to me before) who suggested, that as the cautery had failed, he thought the only thing that could be done was to keep the point of the finger upon the part without intermission for some days and nights. This was done, but, as it had the appearance of simplicity, and my other avocations not permitting me to be constantly upon the spot, the attendants did not persevere with sufficient steadiness. Nature, whose operations at all times we humbly imitate, was alone adequate to the task; for, after its recurrence once and again, she at last prevailed, and, on the twenty-fourth of the same month, the bleeding altogether ceased. Previous to this, he thinks there came on a suppuration of the part, as he spat up some matter tinged with blood. (I may observe, however, that it did not bleed above a fourth part of this time, as it was suppressed by the different means employed; and the quantity lost on any day in which the hæmorrhagy recurred, was very inconsiderable.)

The only medical treatment observed, was the cinchona bark given in powder, and diluted sulphuric acid, as he evidently appeared of a relaxed habit, together with attention to the state of his bowels. His only food was weak broth, taken cold, and milk, with a strict observance of pure and cool air. His pulse became frequent, but was always of pretty good strength. I have drawn up this case in a hasty manner, only with a view to practical utility, and to put others upon their guard against a similar accident, by inquiring into the patient's habit of body, as I certainly cannot help thinking that it proceeded from this cause.

Extract from a Letter from Mr P. CULLEN, Sheerness, on the cure of Varicose Veins, by the Ligature of the Vena Saphena.

As, perhaps, it may be of general utility, I beg leave to acquaint you, that I have succeeded in curing two cases of varicose veins of the leg, by tying the vena saphena.—One was attended with ulcers of the leg, in a man of about 30; the other was not, and in a man of about 24 years of age. In both, the cure was perfectly complete, and the disease had been of some standing.

The place chosen for the operation was on the trunk of the vena saphena, three or four inches above the knee. I laid the vein bare by a small incision, passed a ligature under it, and tied it of a sufficient tightness to interrupt entirely the passage of the blood, and obliterate it. The ends of the ligature were left hanging out of the wound, which was dressed with adhesive plaster. On the third or fourth day, the first dressing was removed, and a simple dressing applied, which was done every day, till the ligature came out, which it did of itself on the twelfth or fourteenth day, cutting its way through the substance of the vein completely. After this the wound healed immediately. As long as the ligature remains, the patient should be confined to his room, and the limb kept in an horizontal posture.

The effect of the operation is soon discernible. First by a sinking, or diminution of the swollen knotty vein, and a kind of tickling sensation which is felt around the ankle, described by the patient as if a *mouse was creeping over it;* an indication of the blood forcing some other passage, most likely through the venæ comites, or internal veins. When the cure is completed, the limb returns to its natural size, loses its unwieldiness, and becomes, like the other, free and easy in all its motions. At least so it happened in these two instances above mentioned.

I should be very glad to know if any other of your correspondents have attempted this, and with what success.

State of the WEATHER in Devonshire.

THE climate of this county varies very much in different districts; in North Devon, from the N. E. extremity to the southernmost cove in Barnstable or Biddeford-bay, snow seldom lies longer than a few hours; and the double-flowering myrtle, as well as the more delicate aromatic and narrow-leaved sorts, constantly flourish in the open air, and not unfrequently constitute a part of the garden hedges. The two following tables, taken, the one at Ilfracombe, situated on the coast, 50 feet above the level of the sea, the other at Oakhampton, within a few miles of Dartmoor forest, mark a very striking difference of temperature in two places not more than 35 miles distant from each other.

The average height of Fahrenheit's Thermometer during the year 1806:

	At Ilfracombe.	At Oakhampton.	Difference.	Average.
For January,	53°	34¼°	18¾°	10½°
February,	48½	36¾	11 3/2	
March,	52	41¼	10¾	
April,	57½	43½	14	
May,	62¼	50¾	11½	
June,	64¾	55½	9¼	
July,	65¾	62	3¾	
August,	66	63¾	2¼	
September,	61¾	57¾	4	
October,	62¼	46¾	5½	
November,	58¼	41	17¼	
December,	56¼	39½	16¾	

Remarkable Instance of Parturition.

THE public newspapers recorded the following birth in the month of May last:—At the poor-house in Stoke-upon-Trent, Staffordshire, Hannah Bourne, a deformed dwarf, measuring only 25 inches in height, was, after a tedious and difficult labour, safely delivered of a female child, of the ordinary size, measuring 21 inches and a half, being only three inches and a half shorter than the mother. The child was, in every respect, perfect, but still-born; the mother is likely to do well.

Dr Forbes of Edinburgh is engaged on a translation of Pliny's Natural History, with scientific and critical notes and illustrations: a life of the author, and a preliminary dissertation on the origin of Natural History, and on its progress and gradual improvement. One great object which the translator will keep in view, is to accommodate Pliny's descriptions to the nomenclature of Linnæus. The work will extend to six or seven volumes in octavo.

On the first of October, will be published "Anatomico-chirurgical views of the nose, mouth, larynx, and fauces, with appropriate explanations and references, by Mr J. J. Watt, surgeon." The engravings will be four in number, containing six views of the parts of their natural size, and accompanied with the same number of outline figures of reference, with an additional anatomical description of these organs, by Mr W. Lawrence, Demonstrator of Anatomy, St Bartholomew's Hospital.

To CORRESPONDENTS.——Communications have been received from *Another Physician*, and Mr G. N. Hill; and the Reviews of Dr Jarrold's Anthropologiæ, Dr Willan's last fasciculus, and Alibert's third and fourth numbers, with various articles of Medical Intelligence, are necessarily postponed to our next number, which will be published on the 1st of January 1809.

ERRATA.

Page 193, line 13, for *poping* read *passing*.—Page 310, line 1, for *Oservations* read *Observations*.—Page 329, line 4, for *Baglior* read *Baglivi*.—Page 363, line 5, for *gonorrhœal* read *gonorrhæal*.—Page 375, line 19, for *hope* read *hoped*.—Page 392, line 21, for *bases and carbon;* read *bases; and carbon*.—Page 450, lines 2, 6, and 19, for *gonorrhœal* read *gonorrhæal*.

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